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INDIANA'S ECONOMY AND PROSPECTS FOR GROWTH

HEARING

BEFORE THE

SUBCOMMITTEE ON ECONOMIC GOALS AND
INTERGOVERNMENTAL POLICY

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

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FOREWORD

By Representative Lee H. Hamilton, Chairman, Subcommittee on Economic Goals and Intergovernmental Policy

Indiana, like most States in the industrial Midwest, faces choices in the next several years that could substantially affect the performance of its economy.

Our State is currently rebounding from a deep and painful recession. Unemployment has been falling although, at 8.5 percent in June, the Indiana jobless rate is still well above the national average. Especially hart-hit areas like Gary, Hammond, Muncie, Terre Haute, and Evansville, still have unemployment rates ranging from 9 to 13 percent.

Compared with other States, Indiana's economy is highly dependent on manufacturing, making our employment base particularly vulnerable to the business cycle. Compounding this problem, key industries have been buffeted by new competitive pressures—both domestic and international. As major sectors like steel suffer permanent losses of production and employment, many Hoosier communities are having to cope with long-term distress and dislocation.

Under these circumstances, States like Indiana are trying to diversify their economies and to develop more stable sources of jobs. Typically, such efforts seek both to maintain the health of the State's existing industries and cultivate a share of newer, more rapidly growing fields.

This volume contains the record of a congressional hearing I conducted in Indianapolis on July 2, 1984, to examine our State's potential for growth. Fourteen witnesses, principally from industry and the State's universities, described conditions in each of the dominant sectors of Indiana's economy: machinery, machine tools, steel, transportation, finance, retailing, health care, agriculture, pharmaceuticals, and other high technology industry.

Most of the witnesses viewed the State's long-term economic prospects as favorable. But, in sector after sector, they warned us not to expect much growth of jobs. To keep pace with the competition, industries will be striving to improve their productivity, which will not necessarily lead to any increase in employment. If markets for the products of our industries are not growing, the number of jobs could actually decline as productivity picks up. Even industries in which demand is growing face pressures to cut costs and keep additional hiring to a minimum.

Luckily, our economy is not as static as this description suggests. As one sector takes steps to improve productivity and competitiveness, jobs may be created in other sectors. When steel or other heavy manufacturing plants decide to introduce new technologies, jobs may be added in various high tech fields. Similarly, upgrading the condition of highways, bridges, and other public facilities should generate jobs in construction and the firms which furnish materials and supplies.

We can benefit from these dynamics in Indiana, but we cannot take our future growth for granted. This hearing offers the insight of private sector and academic experts as to the types of investments—both public and private—that could help Indiana lay a solid foundation for growth. Public investments, for example, should be directed to areas in which all industry has a strong stake: good schools, roads and transit systems, airports, sewer and water programs, research and technical information services, among others. The private sector will also need to increase investment in research, worker training and the modernization of outmoded plant and equipment. The hearing further pointed out how some of these initiatives could be undertaken jointly, by industry, universities, and different levels of government, to help share the costs and sustain the commitment of investment resources over a sufficiently long period of time.

The stakes for Indiana are very high. The State can make a wide range of investments in its future, to assure new jobs and rising standards of living for its residents, or it can watch its economy slip further behind. It is hoped that the views presented at this hearing will help to clarify these choices—and move our State ahead.

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INDIANA'S ECONOMY AND PROSPECTS FOR GROWTH

MONDAY, JULY 2, 1984

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON ECONOMIC GOALS
AND INTERGOVERNMENTAL POLICY OF THE
JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to notice, at 8:30 a.m., in room 226, Indianapolis Convention Center, Indianapolis, IN, Hon. Lee H. Hamilton (chairman of the subcommittee) presiding.

Present: Representatives Hamilton and McCloskey.

Also present: Mary E. Eccles and Sandra Masur, professional staff members.

OPENING STATEMENT OF REPRESENTATIVE HAMILTON, CHAIRMAN

Representative HAMILTON. The subcommittee will come to order.

Today's hearing will examine the State of Indiana's economy and its prospects for future growth. As Indiana residents are well aware, the State has endured a long and painful recession, from which we have only begun to emerge. Losses of production and jobs have been exceptionally heavy: statewide, our unemployment rate hit 13.9 percent last year. Compounding these problems, dominant industries in the State are undergoing major changes due to advances in technology, energy cost increases, and stiffer competition both at home and abroad. And our ability to export the products of our farms and factories has been harmed by the overvalued dollar and depressed economic conditions in much of the world.

Under the auspices of the Joint Economic Committee, I have pursued the subject of Indiana's economy and prospects for development for several years. Most recently, I had the opportunity to participate in a televised discussion in Bloomington with four experts on different aspects of the State's economy, who broadly assessed the health of Indiana's industries and identified choices which could improve our competitiveness. Building on this work, today's hearing will examine in greater depth the problems and potential of four key sectors of the State's economy: manufacturing, services, agriculture, and high technology.

My purpose in convening this hearing is to sharpen public awareness of where Indiana's competitive advantages may lie. Our economic development policies should be based on a clear understanding of the factors which influence industrial decisions about location or expansion. In recent years, State and local efforts to attract industry have intensified: virtually every State, for example, is seeking a share of the high-tech growth. Indiana must be in a position to capitalize on its strengths, or the competition will outdistance us. In my view, it will take long-term commitments of both public and private resources to move us ahead.

The bottom line of economic development, of course, is jobs. For each of the sectors represented here today, we will consider the outlook for growth of jobs in the State of Indiana. The challenge will be not only to provide enough jobs—to substantially lower our unemployment—but to provide the kinds of jobs that assure a good standard of living. We have much to learn from today's witnesses, both about the current condition of Indiana's industries and about their future.

Before introducing the panel, I'm going to ask Congressman McCloskey to make a few remarks about some interests of his, and then we'll introduce the panel and take their statements.

OPENING STATEMENT OF REPRESENTATIVE McCLOSKEY

Representative McCloskey. Thank you, Congressman Hamilton. I'm truly pleased and gratified to be here with you and very, very distinguished leaders, many of whom I've met already in the Indiana economic field. I must commend you for holding these hearings. As you know, you have a strong following on both domestic and foreign policy as one of the truly great leaders in our Congress. I'm very thankful to be associated with you.

I can't begin to go through all the opportunities and problems in the Indiana economy. Being concerned with things close to home, I thought I would highlight several specific concerns about the Eighth Congressional District and southern Indiana, primarily mining.

The Eighth Congressional District which I represent produces an abundance of coal, limestone, and farm products. Aggressive pursuit of innovative coalburning technologies could very much advantage the State. Such steps, many of which are underway already, will help produce a cleaner and more efficient burning of our high sulfur coal. I know I don't have to tell this group that although nothing likely will happen in this term in the area of acid rain legislation, I think there's more than an even chance that issue will be in the next Congress. I think we have to say that anything that will hurt Indiana employment, the Indiana mining economy, is simply not acceptable.

We already have 35 percent unemployment in Indiana mining fields. We must be in a position to increase our employment and make that industry better. The byproduct of some of the processes under development can be used as well in the production of fertilizer to help the farmer. Continued utilization of the particular coal found in Indiana can help keep fuel costs down.

Much more can and should be done in this area. For example, House bill 4182, the National Coal Science Technology and Engineering Development Act of 1983, will provide some $775 million for a 5-year program of increased levels of Federal support for coal. Concentrating on those technologies such as fluidized bed combustion which can be commercialized in a cost-conscious manner is part of the legislation introduced by Congressman Rahall, chairman of the Congressional Coal Caucus.

H.R. 4182 also emphasizes coal technology centers. Hopefully, the increased funding will permit the designation of a coal research center in Evansville. This is something on which we are working very hard now with various experts from Indiana State University of Evansville. This bill is backed by the Indiana Coal Council, and I'm hopeful for its prospects, if in a somewhat modified form.

Another important coal research bill is House bill 5593, the Clean Coal Production and Utilization Technology Demonstration Act. This bill calls for demonstration of a limestone injection multistage burner as well as fluidized bed technologies. Importantly, House bill 5593 calls for these projects to be suitable for installation on existing powerplants as well as new ones.

A strong dollar abroad, high interest rates at home, and Mother Nature have not been particularly kind of Indiana's important farm sectors. The fall in food prices depresses the Consumer Price Index. So while a return to rampart inflation is not at hand, farmers continue to face difficulties. I am particularly concerned about the very slow but somewhat improving rate that disaster loans have been processed. In a recent count, over 1,300 of more than 2,000 loan applications were still being processed. Much needs to be improved in this area.

In the search for market-oriented farm policies, I want to single out the Indiana Farm Bureau and the Indiana Farm Bureau Cooperative Association for their recent special seminar for Indiana's congressional delegation to help educate us on issues in preparation for the 1985 farm bill.

And another very important area of concern to at least one person on our first panel is the defense industry and the problems of Indiana getting its fair share in this area. In the Indianapolis and Columbus areas, capable firms such as GM Allison and Cummins Engine have provided reliable engines for aircraft and military vehicles and will continue to play a role in the future. The T-56 aircraft engine has proven a reliable propulsion plant and aircraft such as the C-130 Hercules, E-2C Hawkeye, and P-3C Orion. Allison may play an active role in the future development of engines for a new family of helicopters as well. Cummins has pioneered the use of ceramics in making engine parts that require little lubrication. Cummins may have a role in the engine for the tank of the future, and this has been highlighted very extensively recently in an issue of Fortune magazine.

As a member of the House Armed Services Committee, it has been a privilege to work with Congressman Bud Hillis to represent Indiana's interests in the defense procurement as well as the research and development area.

Again, I'd like to commend the Joint Economic Committee and its vice chairman, Lee Hamilton. I would also commend for anyone's interest the Joint Economic Committee report which particularly appeals to me, as a former mayor: "Hard Choices: A Report on the Increasing Gap Between America's Infrastructure Needs and Our Ability To Pay for Them." The statistics and analysis done have drawn national attention. The inclusion of Indiana has contributed to a national focus on the industrial and agricultural implications of the recent recession in the Midwest.

Thank you very much for your participation.

Representative **Hamilton**. Very good, Frank. I'm glad you put in a plug for that national infrastructure fund because that's a fund we want to be talking about a great deal in the months ahead.

MANUFACTURING PANEL

Well, our panel this morning on the manufacturing sector includes Mr. Clay Whybark, professor of operations and systems management, School of Business, Indiana University; John Huser—did I pronounce that correctly?

Mr. **Huser**. Huser.

Representative **Hamilton**. Huser.

Mr. **Huser**. Huser, like u-s-e, use.

Representative **Hamilton**. Huser. All right, sir. Mr. John Huser, Sr., president, B&H Tool Corp. from Indianapolis; Bruce Thomas, vice chairman-administration and chief financial officer of United States Steel; Henry Schacht, chairman of the board, Cummins Engine Co. from Columbus.

We are really looking forward to the insights that you gentlemen may provide for us into Indiana's economy and our problems on a larger scale. Mr. Whybark, I think we will begin with you and just move across the panel.

I want to stay on schedule this morning. I think we've asked you to try to summarize your statements in about 10 minutes. That will leave some time for questions. You may continue, sir.

STATEMENT OF CLAY WHYBARK, PROFESSOR, SCHOOL OF BUSINESS, INDIANA UNIVERSITY

Mr. **Whybark**. OK, thank you very much. It may be difficult to get a professor to keep to 10 minutes, but I'll try.

I'd like to respond to your request in your letter to us to look at some of the comparative advantages that Indiana has and some of the factors that are influencing the growth or lack of growth that we face today. I'd like to look a little bit, also, at some of the actions and investments that we need to make in order to improve our position, and I'll do that in three areas: I'll look at the infrastructure question. I'd like, also, to look at the work force, and that includes both labor and management, and then I'll close with a notion of technology that I'd like to share with you.

First of all, in the infrastructure area, I think one of our very strong key advantages is a physical one, a locational advantage. We've heard already of several firms who are interested in coming to Indiana because of its central location for supplying manufacturing firms: in the north, Michigan, Illinois, Wisconsin; to the east, Ohio; west, Illinois; and then farther down south to Kentucky and Tennessee.

In order for us to capitalize on that advantage, however, we clearly need increased investment in the surface transportation infrastructure of the State: roads, bridges, and so on. That is inhibiting the location of companies who could use this central advantage greatly in their strategic plan.

A second area of this investment need is an education. Clearly, if we are going to attract and hold companies in the State of Indiana, we need to provide them guarantees that we will have the basic educational resources and investment in education to provide human resources that they need in the future. One final comment in this area has to do with tax changes. There was a recent announcement about the Sony Corp. locating in Terre Haute provided that we would change our unitary tax law here in the State of Indiana, and that statement came from no less than the chairman of the Sony Corp., Mr. Marito.

Management in enterprise has been criticized recently for a short-term view. A great number of articles have come out on short-term incentives that management must respond to. I am concerned that the same charge may be laid to the public sector, as well. I'm reminded of an old saw that taxes sometimes don't cost; they pay. I think we can see this if we look just at some of our surrounding neighbor States and compare them with other States that have long-standing high taxes.

Let's just look, for example, at the differences between California, Massachusetts, perhaps Georgia, with its role in the South and the Carolinas, and compare those with Ohio, Michigan, and Indiana. For years, the level of taxes in Massachusetts has been the subject of jokes. California's tax burden had reached the point where Proposition 13 was in the headlines a few years ago. On the other hand, not too many years back, the State of Michigan was bankrupt or virtually so, Ohio the same, and Indiana has this notion that any surpluses that we run, we should give back to the taxpayers. It's interesting to look at job creation in the three States that I just mentioned here in the Midwest. The recent Time article on June 25 on the States that had provided jobs and the States that had not, of the 10 worst States going from the very worst up, they list Michigan, Indiana, and Ohio in that order. The State must invest in the future of and for its citizens.

I would like to comment just a little bit about the work force. Labor in this State is an asset. It's one of our comparative advantages, but I think it's very poorly used. Clearly, our labor force has traditional Midwestern values. They're experienced. They're loyal. In fact, a recent study by Indiana University and some collaborative universities in Japan have indicated that the basic attitudes and values of the Indiana labor force are much more positive than those of their counterparts in Japan. That's quite contrary to what we are led to believe.

We do need, however, in the State and throughout the Nation, a new notion of professionalism in a labor force. That's going to require substantial changes in the way that labor unions deal with their membership and the way that management works with the labor resource. We do have in the State some world-class managers. Unfortunately, in many instances, we're affected in the State by decisions taken outside such as the recent decision by RCA to close down the video disk facility or the recent decision in the auto industry to grant large bonuses to the management. Those decisions will affect us dramatically here.

One of the things that I see in teaching managers at all levels at Indiana University is a general state of pessimism. We need some optimism. We need to talk about some of the advantages that we have, and we need to show some action that will attract and keep good management. It's my observation that we have lost very good managers not because they're pushed out of the State. That would make it easy. We could identify problems that were moving good managers out of the State that would be easy to rectify, but unfortunately, I find the primary reason is one of pull. They're attracted by alternatives outside. We need to help them focus on the positive in the State to hold our good management.

Finally, I'd like to talk a little bit about high technology, although I know you have a session on that later. I've just returned from a number of trips to Europe and Japan and throughout the United States looking at modern manufacturing systems, and there's no question that what they're here to stay, and there's no question that the pressures that we find ourselves under now in manufacturing competition will continue to mount. The investments outside the United States and in leading firms outside the State of Indiana are fairly substantial and they are learning this technology much more quickly than we are here.

One of the things that we need to do—and there are some actions now being proposed within the State—is develop mechanisms for sharing information on the new technology: What's available, how to manage it, how to install it, and what the impact of that technology will be. We have in this State a longstanding background in the machine tool industry. Part of the great experience of our labor force here in Indiana and in the rim cities is in the development of machine tools. That is an experience that we need to capitalize on, but very clearly, the technology that's emerging will change the basic roles of the people involved in this industry.

The theme, then, that runs throughout this is the theme of change, evolvement. In order to capitalize on our present assets and to move into the future, we clearly need a basic strong educational foundation. We need specialized training in the evolving technology. We need that for labor. We need that for management.

In my own profession, this is a real challenge to us here in the State. It's a challenge to the management schools. It's a challenge to the engineering schools. We're unusual in this State in that we have one of the world's finest engineering schools, one of the world's finest management schools, the premier music school of the world all in one State and all are in State institutions. The road ahead means that we need novel and inventive programs involving both management and labor and capitalizing on the changing conditions and the advantages that we have here.

We need to train managers of enterprise and unions to roll with those changes and to invest in their own resources for the future.

Thank you.

Representative HAMILTON. Mr. Whybark, thank you very much. Mr. Huser.

STATEMENT OF JOHN A. HUSER, SR., PRESIDENT, B&H TOOL CORP., AND CHAIRMAN OF THE BOARD, INDIANA MANUFACTURERS ASSOCIATION [IMA]

Mr. **Huser**. My name is John Huser. I'm president of the B&H Tool Machine Corp. located here in Indianapolis. I'm also currently serving as chairman of the board of the Indiana Manufacturers Association, and we appreciate this opportunity to make a presentation on behalf of the association today.

The IMA represents nearly 1,500 manufacturing industries spread out throughout the State of Indiana geographically. All types of manufacturers as well as all sizes make up this membership. While nearly all of the major companies in the State are members, it is also true that approximately three-quarters of the member companies employ 200 people or less.

We are aware that we are supposed to be discussing the economic situation of the State of Indiana today. We believe that any comment on that specific subject must be preceded with some reference to the disastrous situation facing the Nation in light of the Federal budget deficits which appear to be nearing uncontrollable actions. Actions taken by either the public or private sector at the State level to strengthen the economy will be futile if the Congress will not face facts and make a more productive effort to bring spending into line with revenues. Let me be quite specific in saying that the wording of that phrase is not accidental.

We do not believe—and I think that most of my fellow manufacturers do not believe—revenues must be made to coincide with spending levels. Spending levels must be brought down to revenue levels. Even now, the Congress is considering a deficit reduction package consisting of $100 billion in cuts and $50 billion in tax increases, all to take effect over a 3-year period. Historically, tax increases have led to additional funding, not deficit reduction. This must not be the case if our system is to survive.

As we approach the specifics of the State economy, my comments will take your letter of invitation literally. We will address the situation from a distinctive manufacturing viewpoint, and I'd like to emphasize the policy thoughts from that frame of reference. Manufacturing, agriculture, and mining all produce raw materials or take raw materials and turn them into salable products. In such activity, they are the very base of our economic system. If nothing is produced, then nothing moves into the distributive or retail operation. We cannot survive as a world power without that production base.

Certainly, we recognize the importance of the service, financial, commercial, educational, and other segments of the private sector, but all of these survive and prosper only when there is a solid realistic base of industry. Without that base, the other segments must be propped up with artificial supports and aid from Government.

There is some degree of concern that current emphasis is on economic development which seems to ignore industrial development. The approach presents two problems: One is the simple misdirection of priorities as to which is the real base of the system. The second is more fundamental. That is the assumption that business development of any affirmative kind is, in fact, the responsibility of Government at all.

We believe Government has the responsibility to permit economic growth, not to insure it. Such permission involves a great deal less Government intervention than we now have.

Having made these comments, let me move on, now, to be more specific about Indiana, and in some degree, reverse my field. We recognize the reality of governmental costs, and we are not going to take an unnecessarily negative position here today. We believe Federal spending tends to get out of hand, at least partly because it is so remote from those who actually provide the funding. Some of us are considerably more willing to support governmental expenditures and increases thereof at a level where we can get a better idea of just what we are getting for our money, but before we support such increases or even current levels of expenditures, we insist on some new priorities. We will not voluntarily increase support of any public spending without an evaluation of what we are getting for our money currently.

The field of education is a good example of this problem. While National, State, and local funding has soared in recent years, the quality of the product of that most expensive system has significantly declined. Even in the fact of documentation of that fact, those in control of the system continue to insist the only solution is even more spending. At the same time, they offer absolutely rigid opposition to any attempt to evaluate the system itself.

The 1983 session of the Indiana General Assembly solidly defeated a proposal for a form of merit rating for teachers despite the fact that most business organizations including the IMA support the bill. In fact, the only real opposition to the legislation came from the Indiana State Teachers' Association. That was enough.

Occupational education is another area of importance to industrial growth. Apprenticeship training has, for years, produced skilled tradesmen in Indiana. We are concerned that over the last decade, staffing of the bureau of apprenticeship training has been reduced by nearly 50 percent in Indiana. It is our understanding the Fort Wayne office of BAT is slated for closing in the near future and that the Evansville office is not staffed at all. It is important to understand this is not social program designed to get unemployables off of the street. This is an economic program which has produced highly skilled workers which are still needed for our system despite the onset of high tech and all that that phrase implies.

In the area of State taxation, sooner or later some way must be found to actually eliminate the Indiana gross income tax from the manufacturer. This levy is particularly difficult to handle by industry which must compete on an interstate basis while dealing with a tax which frequently is the equivalent of a 15 to 25 percent net income tax. No other State handicaps its industry that way.

Recent years have finally seen significant legislative action which reduces the burden on the manufacturers' finished good inventory tax burden, certainly a step in the right direction. Similar efforts must be made to provide for the eventual elimination of the property tax on industrial machinery and equipment.

Care must be taken that Indiana's completely solvent position in unemployment compensation funding is not endangered. We are proud of the fact that Indiana stands out nationally and particularly with our neighboring States as continuing to be debt free in this area.

Our surrounding four States have a total debt of $7 billion in their UC funds. The same situation applies to our workmen's compensation system supported by the lowest insurance rates in the Nation.

Generalized government regulations must be applied with constant care and thought. The environment and its preservation is a major issue now, but we insist that clean air and clean water are only a part of the environment in which we live. To exaggerate only a little, we don't think an unemployed worker will appreciate starving on a diet of clean air and water.

Generally, we do not wish to appear to be completely negative. Our environmental and engineering committee has offered support of a proposal which would separate a State environmental agency from the board of health, a move we believe would improve the administration of the program. We are seriously concerned about combining an effective and reasonable approach to the problem of hazardous waste disposal. Decisions made without benefit of proper study and possibly under the glare of unfavorable publicity of a specific case may or may not be a feasible long-range plan of action.

One of the early answers to air pollution was higher stacks to allow a wider distribution of the particulate. Has this contributed to the acid rain problem?

Availability of engineering to the industrial community and the future of the State's economy is a serious question. Because of the direct impact upon individual consumers, cost increases sometimes receive more attention from that viewpoint by private sector representatives. Despite this lack of emphasis, those increased costs also have a bearing on industry, and our people are no more interested in paying them than anyone else, but we are also aware that energy supply is very basic, and we ask that future decisions be balanced between political and economic considerations.

The rising cost of health care in the United States as well as Indiana is a critical problem. Indiana employers are beginning to become active in trying to contain health care costs. Industry has responded to the increasing health care costs by conducting hospital claims reviews, redesigning benefit plans, organizing health promotion programs, and by joining with other purchasers of health services to form local cost containment coalitions. While industry will continue to do its part, systemwide changes will be needed to bring health costs under control.

In the 1983 General Assembly, IMA was an active supporter of legislation which is now law to require Indiana hospitals to file annual financial and utilization data with the board of health. This is just the beginning of some future developments industry will do to further control costs of health care.

Finally, Indiana is blessed with resources such as water supply, minerals, labor supply, and certainly location so as to be a natural location for industry if a beneficial climate can be maintained. While there is some imbalance in the business and individual tax burden as compared to other States, the overall position is one in which industry finds a better home in Indiana than in many of its sister States. Any governmental intervention in the situation ought to be reduced if possible and increased only after serious consideration of all economic ramifications.

Once again, we appreciate the opportunity to make this presentation, and we sincerely hope that these comments will be helpful in your deliberations.

Representative HAMILTON. Thank you very much, sir.

We are pleased to have Bruce Thomas from United States Steel with us. Mr. Thomas.

STATEMENT OF W. BRUCE THOMAS, VICE CHAIRMAN-ADMINISTRATION AND CHIEF FINANCIAL OFFICER, UNITED STATES STEEL CORP.

Mr. THOMAS. Thank you, Mr. Chairman. I am Bruce Thomas, vice chairman and chief financial officer for United States Steel Corp. I appreciate this opportunity to comment on a matter which concerns all of us—the current state and future outlook of the economy of the State of Indiana. When I was growing up, it was just north of the Michigan border, and I looked on Indiana in those years in sort of a competitive light, but as an officer and a director of a company whose largest plant is now in Indiana, I have a much more enlightened and friendly view of Indiana.

That largest plant is United States Steel's Gary Works, and for more than 75 years, it's been an integral part of the economy and the economic well-being of Indiana, but as you both know, recent years have brought hard times in the steel industry.

Just in the last decade, Gary Works' employment has dropped from about 22,000 workers to less than 16,000 and continues to decline, and only slightly less than 12,000 of those are active. The other 4,000 are laid off, and we hope that's a temporary condition.

During that same period, total employment in all of Indiana's steel industry, all the companies together, fell from about 67,000 to 46,000.

The domestic steel industry collectively lost more than $6 billion in 1982–83. United States Steel posted total losses those 2 years of $1.5 billion, In short, here in Indiana and across the country, the last 2 years represented the worst period for steel since the Great Depression.

While the rest of the country was in recession, steel was in depression. Now, this year has brought some upturn, but there are basic and deeply rooted problems which face our industry. The modest first quarter recovery should lull no one into believing we are home free.

United States Steel embarked on an ambitious self-help program several years ago to meet the demands of the new marketplace in which we must compete. That program includes several major priorities, and capital investment is one of them.

Even during the depths of 1982–83 recession, United States Steel invested $1.2 billion in steelmaking facilities, and that's in line with our capital investment throughout the 1970's and the 1980's. That was a period during which we poured some $6.3 billion in our steel business. That's a number that you don't see repeated very often because for some reason, the media doesn't like to print it. They'd rather say that we're not spending any money for steel. That total investment represented everything we earned in steel and all of the cash flow of all kinds from steel plus another $1.5 billion which we borrowed for investing in steel facilities. A significant part of that money was spent at Gary, and as you may know, we only recently allocated several hundreds of millions of dollars more for a second continuous caster and related facilities at Gary Works which will come on stream in 1986 and which is now being built north.

Rationalizing our steel operations is another part of that self-help program. We know that money isn't the sole answer, so United States Steel initiated a painful but necessary program to close facilities or plants which have an unprofitable past and no profitable future.

We have cut back our management and salaried work force in the last 2 years by more than 40 percent. We joined with others in the industry to achieve a new labor contract with the United States Steel Workers to stabilize wages through mid-1986—wages which over the years have been twice those earned by others in the manufacturing sector.

Containment of health care costs is also a priority. While we've made great progress in reducing costs in almost all other areas, Indiana continues to plague us. Since 1980, our health care costs per employee have risen by almost 85 percent, and here in Indiana, as I indicated, the situation is especially discouraging with health care costs per employee running 35 percent above our corporate average nationwide. This large discrepancy seems attributable in great part to a higher rate of hospital admissions and longer hospital stays than in most other areas.

We received cooperation from the State legislature here in trying to solve this problem with passage of the Hospital Financial Disclosure Act, encouraging more informed decisionmaking on health care needs. All of us must continue to find ways of reducing those costs.

Now, through this kind of cost-cutting as well as finding more efficient ways of operating, we have made impressive strides in productivity at Gary and elsewhere. More improvement will come.

But these efforts may prove futile without some action on the Federal level to help solve our industry's problems. During the remainder of my time, I'd like to discuss two specific issues which are crucial to the future of Gary Works. Both are complex and require more than brief mention. Therefore, we have submitted detailed written documents on both.[1]

The first and more pressing need is to bring under rein the flood of steel imports into our markets through passage of the Fair Trade in Steel Act.

Steel import levels are currently exceeding a 25-percent penetration of our domestic market. Unless these imports can be slowed, not only will there be little chance for growth in Indiana steelmaking and steel-related job opportunities, but there will be a serious question of whether we can hold on to what we have now.

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[1] See detailed documents at the end of Mr. Thomas' oral statement.

Foreign steelmakers have built mills even where little or no demand exists. They then dump their product into our markets at whatever price will attract a buyer. They receive subsidies from their governments to cover any resulting financial losses, in most cases. Such a practice constitutes neither free trade, nor free competition. The real protectionism is that being practiced by foreign nations to protect their steel industries and steel workers at the expense of ours.

Over the years, we have filed a huge number of countervailing duty and dumping suits under existing trade laws to bring fairness to international steel trade, and we won most of those suits. Yet, the flood of imports continues and increases. The industry has come to the conclusion that the only way to achieve fair competition is passage of this proposed steel trade legislation.

Under its provisions, a substantial amount of steel would still enter our market at an average level of 15 percent for a 5-year period, and incidentally, you'll see from reading the attached paper that we're submitting [1] that 15 percent is higher than any other steelmaking country permits in terms of imports of steel, so we would still have the most liberal import policy on steel in the world. Also, as a part of that bill, the domestic industry would be required to channel profits into modernizing steelmaking facilities.

We urge this subcommittee to take a close look at the data we've submitted on steel imports.[2] It also was the basis of testimony by our industry before the Subcommittee on Trade.

Congressman Hamilton, we hope that at the end of your study of the issues discussed in this hearing, you and your colleagues in the House and Senate not yet on board will be pursuaded to sign on as cosponsors of the Fair Trade in Steel Act.

Steel is important to Indiana. Even at the reduced operating levels caused by excessive imports, United States Steel's payroll costs at Gary were almost $600 million in 1983.

I would submit that no other more direct and effective step is available for improving Indiana's economic outlook than passage of that legislation. I think, in short, United States Steel wants and intends to stay committed to the existence of a basic integrated steel industry in this country, and we need your help on this issue to succeed.

Finally, I'll bring to your attention another issue which will require some Federal action. It involves United States Steel's proposal here in Indiana to construct a natural gas pipeline to connect with an interstate line owned by ANR Co. to provide an alternate source of supply for our Gary Works.

Our natural gas costs at the Gary plant run about $100 million a year. The proposed pipeline would save us a conservatively estimated $10 million a year.

The proposed interconnection would require approval of the Federal Energy Regulatory Commission on petition from ANR. We have received approval of the plan from all but one necessary municipality, the city of Griffith.

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[1] See paper at the end of Mr. Thomas' oral statement.

[2] See data at the end of Mr. Thomas' oral statement.

Opposition, as you might guess, is coming from the Northern Indian Public Service Co., NIPSCO. Unfortunately, that opposition does not always seem to be based on the facts. Two of NIPSCO's main arguments have focused on plans that this alternate natural gas source for the Gary Works should increase the cost of energy to residential customers by $27 annually and that the proposed pipeline would represent a safety hazard.

Both claims are unfounded. United States Steel has made it clear that it will continue to purchase significant amounts of natural gas from NIPSCO even with the alternate sourcing. An independent study commissioned by the city of Gary showed if there were any residential rate increase, it would likely be only about 75 cents a month. And, of course, no rate increase would be possible without approval from the Public Service Commission.

There is no serious question concerning safety. The pipeline would meet or exceed all the standards which NIPSCO itself is required to follow.

We think an impartial look at the facts of this situation will indicate the advantages of our proposal.

I have outlined some of the major steps needed to assure the continued presence and potential growth of United States Steel—and the steel industry generally—in Indiana.

We're doing what we believe is necessary at our end to compete in the steel markets of the mid-1980's. Our efforts are beginning to show positive results. These efforts will continue, but to create a market in which all competitors are required to follow the same fair rules, we must rely on you and others in Congress and the administration.

I hope your response will be positive and that we can all continue to move together toward a more prosperous economy for Indiana and its citizens.

Thank you.

[Attachments to Mr. Thomas' oral statement follow:]

POSITION PAPER -- U. S. STEEL'S PIPELINE PROPOSAL

Entered as written testimony by U. S. Steel July 2, 1984, before the Congressional Joint Economic Committee's Subcommittee on Economic Goals and Intergovernmental Policy, Indianapolis, Ind.

U. S. Steel's Gary Works has proposed to construct a 16-inch natural gas pipeline that would run 14 miles from an interstate pipeline south of U. S. 30 to the plant as an alternate source of supply to Northern Indiana Public Service Company (NIPSCO).

Background

The basis of this decision lies in part in the severe economic crisis U. S. Steel is trying to meet in today's continuing steel industry recession.

First and foremost is the ever-increasing flow of illegally dumped and government subsidized foreign steel into the United States.

In the 1950s, imported steel took 2.3 percent of the U. S. market. In the 1960s, it rose to 9.3 percent, and in the 1970s, to 15.3 percent. By 1982, a record high of 21.8 percent of the U. S. steel market was taken by imports; in the last two years the American steel industry has lost 6 billion dollars to imports.

It has been well documented by economic studies that one million tons of imported steel products represent approximately 4,700 American jobs. In 1983, about 21 million foreign tons penetrated the American market, representing 98,700 lost jobs, as well as many more thousands of lost jobs in related industries, services and suppliers.

The basic survival of the American steel industry, U. S. Steel, and particularly, Gary Works, has been challenged by a well-publicized double-whammy. First, illegal foreign imports; second, a severe economic recession in which steel capacity far exceeded steel demand. Basic U. S. Steel statistics tell the story: steel shipments were 11 million tons in 1983, down 33.3 percent from 1981, and were the lowest since 1938; raw steel production in 1983 was 14.8 million tons, down 36.8 percent from 1981. U. S. Steel's operating loss for the steel segment from October 1, 1982 to September 30, 1983 was $865 million.

With these disastrous circumstances, every plant within U. S. Steel, including Gary Works, has had to develop a strategy for survival.

Locally, we all know about the sad headlines made by Gary Works: jobs eliminated, salaries, wages and benefits reduced; facilities terminated.

Knowing full-well that the American steel industry's labor costs will never be lower than foreign steel, the cost competitive drive to improve productivity and reduce man-hour-per-ton resulted in an employee cutback at Gary Works from a 1959 high of 25,000 to today's 13,000.

But there had to be other strategies as well. Looking for every and any way to reduce administrative costs, Gary Works appealed to its suppliers for flexible contracts and methods of service that could help in any way possible to aid the plant in its survival tactics. Most were very helpful and cooperative.

But when it came to one of the plant's most significant suppliers, Gary Works hit a dead end. Everyone knows that the steel industry is energy intensive, and everyone knows how the cost of gas has gone up. Everyone knows that NIPSCO is the supplier of natural gas to Gary Works. Everyone knows that NIPSCO is a monopoly. Not everyone knows that the bill for natural gas to Gary Works from NIPSCO is in excess of $100 million per year.

U. S. Steel approached NIPSCO as it did its other suppliers and received no satisfaction. As a monopoly, NIPSCO showed no interest in trying to accommodate U. S. Steel in any way. An interesting situation, one would think, considering that NIPSCO represents one-third of all the natural gas purchased by U. S. Steel nationwide.

NIPSCO's Performance

NIPSCO asserts that it has performed well its role as a natural gas distributor and, in support of that assertion, identifies, without reference, its comparative price standing with other natural gas distribution companies. No time frame for the comparison is provided, however. On the other hand, U. S. Steel can identify, among its nationwide natural gas suppliers, at least six utilities that provide gas at a lower cost.

NIPSCO's self-serving statements aside, U. S. Steel has found that even with an estimated multi-million-dollar investment required to install and operate a pipeline, we can purchase and transport natural gas to our Gary Works facility at an annual savings of $10 million, certainly a sufficient cost savings to justify its efforts to install the pipeline.

NIPSCO's lack of responsiveness to U. S. Steel's need to reduce energy consumption highlights our need for flexibility. Other utility companies serving other U. S. Steel facilities, in response to similar requests for cooperation, have responded, but not NIPSCO.

Presumably, NIPSCO should be interested in the economic well-being of its customers, especially when those customers are losing significant dollars producing steel. Certainly NIPSCO is aware of the steel companies' plights, having attributed (or blamed) the steel companies' loss of sales for NIPSCO's inability to achieve a rate of return acceptable to NIPSCO and its shareholders.

Pipeline Location

The proposed pipeline will transport natural gas from an interstate pipeline operated by Michigan-Wisconsin Pipe Line

Company several miles south of U. S. Route 30 and north of Crown Point and about 14 miles south of Gary Works. The line would travel north on a 5.6 mile easement from L. B. Foster Company to a point of connection with the EJ&E Railway, a U. S. Steel subsidiary, just south of Griffith. From that point to Gary Works, the pipeline would travel north on the EJ&E property. It would pass through Griffith paralleling Broad Street, go due north to the right of Cline Avenue, bend around the left edge of the Gary Airport and into Gary Works from the west.

Pipeline Safety

There is no serious question as to the safety of the pipeline. It will meet and in some cases exceed all generally accepted safety standards and be installed at a depth of not less than three feet. It will be technologically in compliance with all requirements of the United States Government and the State of Indiana.

The pertinent Federal requirements were adopted in the early 1970s and impose standards more rigorous than those previously required. Consequently, the pipeline will be safer, as a matter of fact, than any pipeline installed prior to the early 1970s. To assure safety, U. S. Steel will install a pipeline meeting even more rigorous standards than those generally required. There will be no interruption of street traffic as the line will be installed by boring beneath the streets.

Any assertion by NIPSCO as to the safety of the pipeline can only be regarded as a challenge to the safety of its own natural gas pipeline system -- much of which was undoubtedly installed prior to the adoption, in the early '70s, of the more rigorous Federal standards. Consequently, the pipeline to be installed and operated by U. S. Steel will be as safe -- if not safer -- than that operated by NIPSCO. The pressure will not be inordinate or unusual, and the pipeline installed will, of course, accommodate the contemplated pressure.

Playing on the Public's Fear

NIPSCO is playing on the public's fear when it suggests that residential rates will increase because of a partial U. S. Steel withdrawal from the NIPSCO natural gas system. U. S. Steel is part of the industrial class. Under the Public Service Commission of Indiana's requirements, each class is supposedly charged on a cost-of-service basis, and the costs of one class are not supposed to be borne by another class.

Furthermore, the cost of servicing a gas customer is almost totally in the cost of the gas itself; there are very comparatively few overhead costs such as there are in supplying electricity. For example, a recent filing by NIPSCO at the Public Service Commission reveals that almost 90 percent of its natural gas costs are associated with commodity costs.

Thirdly, NIPSCO assumes that U. S. Steel has a duty to buy natural gas, which, after the two-year contract termination period (October 31, 1985 is the last date), it does not. And its arguments leapfrog several steps and fail to disclose key assumptions. For example, NIPSCO assumes that U. S. Steel will terminate its service entirely. That is simply not the case, however. U. S. Steel will continue to purchase significant amounts of natural gas from NIPSCO.

NIPSCO cannot raise its rates as a matter of course. Any increase in rates would be contingent on the approval of the Public Service Commission of Indiana. And that Commission is now composed of five members -- as opposed to three. The three new members selected in December were subject to more intense scrutiny as to attitudes toward consumers of energy than ever before.

Loss of business, of itself, is insufficient to justify an increase. NIPSCO's profits are up -- 34 percent during 1983 ($138 million). During the past winter, it has undoubtedly sold considerably more natural gas than the previous quarter, presumably increasing its gross income without concomitant increases in costs associated with its fixed plant. By contrast, U. S. Steel ended the year 1982 with a net loss of $361 million. Also, from October 1, 1982 to September 30, 1983, steel companies operating in NIPSCO's service area lost more than $1.8 billion. None made a profit.

U. S. Steel does not expect to withdraw completely from the NIPSCO system and, as such, will oppose any efforts by NIPSCO to secure additional income predicated on U. S. Steel's reduction in the amount of natural gas purchased. Assuming that NIPSCO seeks such an increase, it is U. S. Steel's position that such costs are properly borne by NIPSCO's shareholders, not its ratepayers. The shareholders must be accountable for a management's lack of responsiveness to the considerable needs of an industry suffering from the significant inroads made by foreign steel and "mini-mills."

In terms of its opposition at the Commission, U. S. Steel points to its track record there -- a record that has benefited industries and residents alike -- with respect to NIPSCO's extraordinarily high electricity cost. On U. S. Steel's motion, NIPSCO's request for emergency interim relief was denied in December, 1982. And on U. S. Steel's and Citizen's Action Coalition's motions, the Commission decided to review the amount allowed in NIPSCO's rate base for its new unit 17 (costing $1,810 per KW, more than three times the costs of NIPSCO's unit 15, brought on line in late 1979), in order to determine whether all of the expenditures made on the facility were reasonably incurred.

U. S. Steel has joined other industrial intervenors and the Public in retaining auditors to examine NIPSCO's costs in an effort to explain the unit 17's excessive costs and to reduce the amount that NIPSCO's ratepayers are obliged to pay for that facility.

U. S. Steel will oppose NIPSCO in any general application seeking rate increases for its natural gas service.

Conclusion

There is no guarantee that more facilities won't be closed and more jobs lost at Gary Works if the plant doesn't explore every avenue for cutting overhead costs and increasing productivity. Energy is a major portion of those costs. Building its own pipeline to provide an alternate source of natural gas is a logical solution to reducing these costs by an estimated $10 million a year at present consumption and gas cost rates. It is a vital step in the survival plan for Gary Works.

THE NEED FOR STEEL IMPORT QUOTAS

Statement
of

DAVID M. RODERICK

Chairman, United States Steel Corporation
and
Chairman, American Iron and Steel Institute
before the
Subcommittee on Trade
Committee on Ways and Means
U.S. House of Representatives
April 26, 1984

Thank you, Mr. Chairman. I am David Roderick, Chairman of the American Iron and Steel Institute, and Chairman of United States Steel Corporation.

These hearings you are conducting on the American steel industry are of paramount importance—not only to our domestic steel industry, but to the entire business community, and the nation as well. At stake is nothing less than our future as a major world industry, and our position as the principal supplier of steel to the American economy.

With me today are Donald Trautlein, Chairman of Bethlehem Steel; Dr. Adolph Lena, Chairman of the Specialty Steel Industry of the United States and CEO of AL-TECH Company; James Chenault, CEO of Lone Star Steel; and Roger Regelbrugge, CEO of Georgetown Steel.

Each of us will offer his view of the industry's problems from his own perspective. But each of us will have the same basic message: simply, that steel is now in its deepest crisis since the Depression of the Thirties. And a small upturn in our short-term fortunes cannot be allowed to lull us into believing the long-term issues are resolved. They are not!

The main continuing cause of this crisis is steel imports—and the situation grows steadily worse. Any solutions, to be effective, must be undertaken at once.

That is why we believe that H.R. 5081, co-sponsored by 133 Members of the House of Representatives, with its companion Senate bill S. 2380, offers the most effective solution.

The fact that these hearings are being held at all is acknowledgement of the precarious state of the domestic steel industry. A brief summary of the essentials of the crisis we are experiencing might be useful.

- The industry's losses in 1982 and 1983 totalled over $6 billion.
- There were over 170 plant or facility closings in the last two years alone, affecting virtually every industrial state, but particularly the Great Lakes states. Steel communities in the major metropolitan areas of Pittsburgh, Buffalo, Chicago, Cleveland, Gary, Johnstown and Youngstown have been ravaged.
- Employment, which averaged 453,000 workers in the period 1975 through 1979, slid to 243,000 in 1983—a decline of 46 percent.
- Capital investments have been reduced when they should have been increased. Steel's capital needs have been projected to be in excess of $5 billion annually merely to maintain minimum viability. Yet in the past five years, capital investments have averaged only $2.3 billion and dipped to $1.9 billion last year.
- In fact, the industry has lost nearly a third of its net worth between 1981 and 1983.

To continue in this manner is tantamount to the eventual liquidation of the domestic steel industry. Steel is a key industrial material that accounts for over 90 percent of all metals usage in the nation. *To permit such an industry to dissolve literally before our eyes is to invite disaster.*

And one of the major reasons for this crisis is chronic overcapacity in the steel-producing nations of the Free World. How ironic—and how tragic—it would be, if we in the U.S.A. had to turn to foreign producers for our supply of steel because of the decline of our domestic steel industry. For while there is excess capacity worldwide, we are the *only* nation that could not presently supply our own needs in a time of strong demand. *We have not overbuilt, yet we suffer the direct and serious consequences of "their" overbuilding!*

This overcapacity exists because most foreign steel production capacity is government-controlled . . . or government-subsidized . . . or both, and these governments have been unwilling, for their own political and social reasons, to restructure in order to match capacity with demand.

Despite heavy losses year after year by these "government-sponsored" steel industries, the market system has not been allowed to work its will. And without its discipline, and in the absence of a penalty for failure, or the need to make a profit or generate capital from within, most of these foreign producers and their governments have been spared from the painful act of restructuring.

They have insulated their own markets from imports while demanding unlimited access to ours *on their terms.* They have kept operating and modernizing, and yes, even expanding because they had, until very recently, virtually unlimited access to their respective national treasuries.

The growing world oversupply of steel mill products has increasingly been shipped to the U.S. market. As Japan, the European Community, and the Third World severely limited access to their own domestic markets, the world's surplus inevitably drained into ours—the largest . . . and perhaps the last . . . remaining open market in the world.

In addition to targeting the U.S. market in terms of volume, pressures on foreign governments to maintain full employment and maximize tonnage have encouraged sales to the U.S. at almost any price, regardless of cost. As a result, we have been flooded with dumped and subsidized steel. This has seriously injured U.S. producers by reducing sales and production volume, increasing costs and reducing cash flow for modernization.

Who can measure the true damage being done to our domestic steel industry, to its employees and their communities, to shareholders and ultimately to the robust health of our industrial base? Is it the capital shortfall necessary for renewal? Or the 32 percent loss in steel segment equity of domestic steel companies?

And is it enough to speak only of financial damage? What of the damage done to the social fabric *because we are the sacrificial lambs to a concept of world trade honored only in its breach?*

Your reaction at this point, Mr. Chairman, might be a question. Why doesn't the industry use existing trade laws to get relief from the massive injury being caused by unfairly traded imports? The answer is: we have used them—and to little avail.

When our government, back in 1977, made its first attempt to address the steel trade problem, the result was the trigger price mechanism, designed to make antidumping laws more responsive and timely. After an inauspicious life-span, the TPM collapsed altogether in 1980. The system was reinstated, and U.S. Steel, which had earlier filed unfair trade cases, withdrew its complaints in response to the promise of wholehearted government enforcement of the TPM. But the magnitude of the problem brought it down once again, and the self-initiated unfair trade cases brought by the Administration were too little and too late.

Thus, the industry was forced in January 1982, at enormous expense, to file its own cases, principally against European Community producers. After findings in many of those cases of both injury and substantial unfair trade margins, the Administration and the E.C. finally proposed, and our petitioners accepted, the present U.S.-E.C. Arrangements.

Next came the problem of Japanese steel imports. Near the end of 1982, the American Iron and Steel Institute filed a case under Section 301 of our trade laws alleging that the Japanese export restraint agreement with the E.C. had caused injury to the U.S. industry.

The United States Trade Representative, which administers proceedings under that statute, entered into discussions with the Japanese government and, as a result, Japan reportedly undertook a policy of voluntary restraint of steel exports to the U.S. so as not to disrupt our market. *The U.S.T.R. accepted the Japanese under-*

taking and thereupon dismissed the AISI petition. But not without admitting the correctness of the premise of our petition, namely the GATT inconsistency of the Japanese-E.C. Agreement.

So by the beginning of last year two major sources of steel imports were under restraint of one kind or another. One might have thought that this would have had a moderating effect on imports. *Not so!* Import penetration of our market, which had been at 16.3 percent as recently as 1980, rose to 20.5 percent in 1983, and this year is running at an incredible 26 percent.

There is no accommodation whatsoever with developing countries. South Korea and Brazil now rank second and third as the largest steel exporters into the U.S. market. Third World countries account for the dramatic increase in foreign imports.

Of the time allotted me, Mr. Chairman, I have chosen to use a major portion of it to recount some recent trade history in order to indicate that our industry *has* used our trade laws to seek relief from injury. We have worked patiently with two Administrations to try to solve the problem, but despite all these efforts, imports disrupt our market more savagely than ever.

We continue to seek redress within the trade law framework. In the last six months, 41 unfair trade cases have been filed against 10 countries outside the E.C. and Japan. Another petition has been filed by Bethlehem and the U.S.W. under Section 201 of our trade laws. We are still spending enormous sums to develop cases.

Yet, imported steel is taking a record share of our market—a share *twice* what the European Community accepted in its market last year . . . and over *five times* what Japan accepts.

And so our industry—which until last year was unable to reach a consensus regarding steel quotas—now believes that it is *the* indispensable solution.

I want to stress that the American steel industry isn't just sitting on its hands waiting for the quota bill to be passed. We have been engaged in massive self-help efforts, despite our financial constraints, and incurring severe debt to do so.

- Productivity gains are our chief objective. The continuous casting capability of the industry will double over the next five years. Since 1982, 16 new continuous casting machines have become operational or will be before year-end. This process reduces energy consumption, while increasing yield and improving product quality.
- Significant improvements are being made in the fields of computerization, metallurgy, sensor development, and electric furnace operations—where we are the world leader.
- We have sold unneeded assets, closed economically inefficient facilities, and eliminated unprofitable product lines.

On the human side:

- Employee benefits—a major employment expense—have been reduced substantially, lowering costs while preserving major health care protection.

- Management salaries have been pared and management ranks have been thinned drastically. Additionally, reductions in clerical personnel have been effected. These white collar reductions range from 30 to 40 percent for our individual companies.
- We initiated unprecedented bargaining with the United Steelworkers of America for first-time concessions. Since March 1983, we have a new union contract which has the effect of stabilizing labor costs through mid-1986.
- Our suppliers have also taken into account the crisis mode of the steel industry by lowering the costs of goods and services purchased.
- New inventory policies have streamlined operations and cut costs . . . new ways of raising capital have been found . . . and selective efforts to diversify have been made, designed to restore corporate profit stability without diminishing funds available for steel modernization.

But all of these self-help efforts, Mr. Chairman, are futile if the core problem of unfairly traded imports remains unsolved.

We think that H.R. 5081 provides the solution. We are confident it will prove acceptable to the Congress once it is analyzed and debated. It provides a comprehensive framework for import limits, yet in a manner that gives this—and the next Administration—the flexibility required for formulating and implementing economic and foreign policies.

Because H.R. 5081 is so critically important to the industry at this juncture, I have focused my remarks on the need for global quantitative restraints on steel imports. I recognize, of course, that in calling these hearings you also wish to hear from us on a wide range of steel industry issues. These are addressed more fully in my written testimony, which has been supplied to you today, and which I would be happy to supplement at your request.

Mr. Chairman, I hope I have been able to impress upon you the seriousness and urgency of the crisis in American steel.

The steel industry is making every effort within its power to solve the problems facing us. Suppliers have cooperated willingly, management has disciplined itself, and the union has made sacrifices of its own. We are making progress—*but not of sufficient magnitude to offset the problem of foreign imports.* It is not within our power to compete with foreign governments.

We have done what we can do. Now we need your help. It is essential that this country take the legislative steps required to bring some order to the domestic steel market. Your committee's endorsement of H.R. 5081 would be a substantial help in ensuring the survival of the nation's most basic industry—its steel industry.

PRESENT POSITION OF THE INDUSTRY

Structure and Concentration

The steel industry consists of 92 firms engaged in production of raw steel and finished steel products. In 1983, integrated producers accounted for 78.0% of raw steel production and non-integrated producers, 22.0%. U.S. mini-mills in 1983 had approximately 18.2 million net tons of capacity, and 12.7 million net tons of raw steel output, accounting for approximately 15% of U.S. production last year. In 1983, the top 3 steel companies accounted for 39.2% of total output and the top 8 firms accounted for 72.0%. Estimated capacity in January 1984 was 135.3 million net tons, down from 150.6 million net tons in January 1983, and 160 million net tons in 1977. The U.S. shutdown of capacity in the year 1983 was equivalent to the loss of an industry equal to the size of the Canadian or British steel industries.

Production and Shipments

Production in 1983 was 84,615,000 net tons, or 56.2 percent of capability. This compared with 74,577,000 tons, or 48.4 percent in 1982. The percentage of production coming from basic oxygen furnaces rose to 61.5 percent in 1983, compared with 60.7 percent in 1982; electric furnaces produced 31.5 percent last year, compared with 31.1 percent in 1982; and open-hearth furnace production declined to 7.0 percent, from 8.2 percent in 1982.

The percentage of raw steel produced by continuous casting was 32.1 percent in 1983, against 29.0 percent in 1982.

Shipments in 1983 totalled 67,584,000 net tons compared with 61,567,000 tons in 1982. This level of shipments, while a modest improvement over the 33 year low of 1982, was still at a depression level, in part due to the continued high level of imports, which took 20.5% of the U.S. market in 1983.

Employment

While employment levels in the American steel industry recovered slightly during 1983 from the bottom of the two-year recession, steel industry unemployment was still far higher than in the nation as a whole.

Average 1982 employment in the steel industry was 289,400 persons (including both hourly and salaried employees), compared with 243,700 in 1983. These figures compared with an average of 453,000 persons employed in 1975-79, indicating that employment in 1983 fell 46 percent below that base period.

Financial Condition of the Industry

The total cash flow of the steel companies has not been adequate to meet capital spending requirements. During the 1970s, capital expenditures exceeded internally generated funds of over $1.5 billion because of low profitability, and tax depreciation policies which did not cover inflation in replacement costs.

To compensate for the deficit of internally generated funds, steel companies increased borrowings. This has resulted in increased debt ratios. The high debt levels and lower profitability have resulted in reduced debt ratings which limit the industry's financial capacity for additional increases in debt and further reduces profitability, due to increased financial costs on new debt issues.

The six largest steel companies reduced dividends over 70% during the past two years. These reductions, combined with low ratios of market price to book value and limited expectations for substantial improvements in industry profitability and cash flow, have restrained the industry from raising any significant additional equity capital at reasonable costs.

During 1979-1983, "Steel Segment"* uses of funds (net cash for long term investment in plant and equipment, and Steel Segment dividends) far exceeded net cash provided from operations. Even without Steel Segment dividends, net cash for long term investment in plant and equipment exceeded internally generated net cash flow from steel operations, by about $1.3 billion. These data affirm that the steel industry has not used cash flow from steel operations for non-steel investment purposes.

Net losses from "Steel Segment" operations totalled $5 billion for 1982 and 1983, through the third quarter. The fourth quarter 1983 plant shut-downs and operating losses caused total net losses to increase to more than $6 billion in 1982-83.

Capital expenditures for the Steel Segment during the period 1980 through September 1983 averaged only $2.3 billion per year, for 86% of the industry—equivalent to $2.7 billion for the total industry. This is alarmingly below the level necessary to maintain and modernize existing plant and equipment, which we estimate to be about $5.5 billion annually, based upon an annual replacement rate of 4.4% of facilities.

As a result of inadequate generation of cash internally, long term debt for the Steel Segment, including that due within one year, rose from 43.9% of equity, at the end of 1979, to 80.9% of equity by the third quarter of 1983. From 1981 to 1983, shareholder equity in the "Steel Segment" of steel companies declined approximately $5 billion.

Due to its heavy losses, the steel industry had an Investment Tax Credit carryover of $1.2 billion in 1983. Moreover, the industry Net Operating Loss (NOL) carryover rose from $1.6 billion at the end of 1982 to $5 billion at the end of 1983.

These data affirm the deteriorating financial condition of domestic steel companies. Balance sheets of individual steel companies must be repaired quickly to avert further potential shut-downs or the financial collapse of some companies in the industry.

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*The financial data in this statement are preliminary and derived from a Price Waterhouse & Co. financial steel industry survey still underway. This survey will provide balance sheet, income statement, and cash flow statement for the Steel Segment as well as for total corporate operations in each participating company. The 33 participating companies accounted for approximately 86% of U.S. raw steel production in 1983.

COMPETITIVE STATUS OF THE INDUSTRY

Mr. Chairman, government steel policy cannot ignore an essential question: How competitive is the American industry in its own market, and how can it be made more competitive?

Comparative costs can change rapidly. However, present cost relationships indicate it is incorrect to contend the U.S. industry can no longer compete in its home market.

Current Data Show U.S. Industry Is Competitive

The latest data (2nd quarter 1984) from the World Steel Dynamics carbon steel model show that even with current misaligned exchange rates the U.S. steel industry is now cost competitive in its own market. This is shown in Table 1.

Table I

*Costs per net ton shipped**

2nd Quarter 1984 (at Actual Operating Rates)

	U.S.	Japan	West Germany	France	U.K.
Labor Costs	$137.61	$ 95.98	$124.28	$126.74	$ 90.33
Raw Materials Costs	301.69	255.33	242.62	221.18	255.33
Financial Costs	38.76	96.35	49.73	75.19	51.67
Total	$478.06	$447.66	$416.63	$423.11	$397.33
Dec. 1983 Entry Costs (duty, freight, handling) Into U.S. Market		$ 74.61	$ 70.76	$ 70.76	$ 70.76
Landed Costs in U.S., before Profit	$478.06	$522.27	$487.39	$493.87	$468.09

*Source: Table 5, World Steel Dynamics, Steel Strategist #9, February 1984—Paine Webber Mitchell Hutchins, Inc.

Mr. Chairman, I reiterate these cost data are not domestic steel industry data, but instead, are from the Peter Marcus Paine Webber model, generally acknowledged to be the best and most accurate public model available for comparative information on the major world steel producers.

To illustrate the nature of our trade problem, table 2 lists the average value of steel imports entering the U.S. These data show that steel import values continue to be well under costs of production in most of the countries from which they originate.

Table 2

*Average Value of Imports***

Year	Dollars per net ton
1983	$374.48
First Quarter 1984	$362.77

**Source: U.S. Bureau of the Census—FOB Value

There is now little doubt that imports are entering the United States at prices well under their costs of production. This has been occurring for nearly two decades. Moreover, these data on foreign costs of production embody foreign subsidies for materials and labor costs, grants which offset financial costs, and subsidized interest rates. If these subsidies were included, as they should be, foreign costs of production would be far higher than those listed above.

Comparative Steel Costs are Distorted by Misaligned Exchange Rates

In addition, assessments of the underlying competitiveness of the U.S. steel industry which ignore exchange rates are inherently distorted. This is illustrated in Table 3, which shows how costs in the 2nd quarter of 1984 (at actual operating rates) would be altered if exchange rates had maintained the values which prevailed in 1978-79. This table shows the phenomenal extent to which exchange rate fluctuations have altered comparative steel costs—especially in regard to West Germany, France and the U.K. When measured against the Morgan Guarantee real effective exchange rate series, the shifts of exchange rates in the 1980s are an abberation, differing sharply from long-standing patterns and distorting underlying competitive relationships.

Table 3

Second quarter 1984 pre-tax cost per net ton

(At Actual Operating Rates)

	At 2nd Quarter 1984 Exchange Rates	At 1978-79 Exchange Rates Average	Percent Distortion
U.S.	478.06	478.06	
Japan	447.66	454.05	1.4
West Germany	416.63	481.54	15.6
France	423.11	645.11	52.5
U.K.	397.33	489.52	23.2

Source: WSD, Steel Strategist #9

OTHER INTERNATIONAL COMPARISONS OF EFFICIENCY

The most basic level on which industrial competitiveness can be evaluated is in terms of the efficiency with which inputs are used. Three of the major inputs are labor, energy and capital. Latest data (Table 4) show that the U.S. steel industry ranks with Japanese producers in terms of labor productivity *at actual operating rates* for carbon steel production by integrated producers. Given the inadequate investment of the U.S. industry, its carbon steel labor productivity represents a solid performance in comparison with the results achieved by foreign industries in newer plants built with government support.

Table 4

Labor productivity

(Manhours Per Net Ton Shipped at Actual Operating Rates)

	U.S.	Japan	West Germany	France	U.K.
1976	8.79	10.11	11.12	14.89	19.17
1977	8.95	9.98	12.57	14.26	21.26
1978	8.12	9.55	11.67	12.62	21.56
1979	8.29	8.55	9.85	11.35	18.58
1980	8.31	8.30	9.98	10.14	37.35*
1981	8.07	8.49	9.95	10.24	13.50
1982	7.84	8.07	11.08	10.83	13.35
1983 3Q Avg	6.69	7.82	10.92	11.03	10.63
1983 3Q	6.48	7.28	11.42	11.62	11.31
Annual Rate of Improvement	+1.9%	+2.2%	+2.8%	+3.2%	+3.7%

Source: WSD

*Strike Year

The U.S. advantage would be far less if each industry were able to operate at a high level of capacity. Certainly Japan, which is generally considered the world's most efficient steel industry, would have the best labor productivity at high operating rates. Since 1975, low operating rates have been a serious burden for the Japanese steel industry. Yet potential efficiency is economically meaningless unless demand is adequate to sustain the potential level of performance. If, over a long period, market demand is lower than projections—as has been the case in the world steel industry since 1975, potential efficiency is transformed from a competitive strength into a liability. Persistent excess capacity represents a managerial error, regardless of the potential efficiency of the facilities which are idled. Given the duration of the present crisis in the world steel industry and the persistent under-utilization of capacity, the use of a "standard" operating rate, rather than an actual rate (usually 90%), to describe efficiency is meaningless.

Energy Efficiency

Energy efficiency in terms of Btus per ton shipped, is set forth in Table 5:

Table 5

Energy efficiency

(millions of Btus per net ton shipped)

	U.S.	Japan	West Germany	France	UK
1973	36.9	31.3	35.4	41.9	37.5
1981	35.4	27.9	36.0	36.2	40.4
1983	34.8*	27,4	29.7	30.6	37.7

Source: WSD

*AISI data for 1983 show 24.73 million Btus per ton of steel shipped for all grades. WSD data refer to carbon steel only.

Here the U.S. industry ranks somewhat behind its European competitors and substantially behind Japanese producers. Table 10 describes overall energy usage, regardless of type (coal, electricity, oil, etc.). As the data indicate, improvements in overall fuel efficiency are somewhat difficult to come by; and the principal effect of the energy crisis of 1973 has been a shift in the mix of energy inputs (from petroleum to coal and electricity) rather than a major reduction in total energy usage. The U.S. performance in energy conservation would substantially improve at higher levels of investment, as higher yields, derived from a higher rate of continuous casting, reduce Btus per ton of steel shipped.

Efficiency of Capital Utilization

In the 1960s and 1970s, U.S. industry was substantially ahead of all of its major competitors, with respect to return on total capital employed. It is still far ahead of its European competitors, in terms of pre-tax profit per ton of steel shipped, and since 1976, only slightly behind Japanese producers. The efficiency of capital usage is difficult to measure in physical terms. One measure of capital efficiency is operating rate, or utilization of existing capacity. In this regard, the performance of the U.S. industry since the mid-1970s has on average exceeded that of its major competitors. This is shown in Table 6.

Table 6

Capacity utilization

(Production as % of reported capability)

	U.S.	Japan	West Germany	France	U.K.
1976	80.6	77.1	62.4	75.0	78.9
1977	78.6	68.4	57.3	66.5	71.2
1978	86.6	64.2	60.7	69.7	71.4
1979	95.1	67.4	66.7	71.9	74.6
1980	77.8	65.4	65.1	73.6	39.9
1981	85.7	60.3	62.5	72.0	61.5
1982	54.5*	62.4	54.4	63.2	58.8
1983 3Q Avg	65.4*	61.4	56.3	60.7	72.0
1983 3Q	66.91*	65.8	55.9	57.16	72.21
76–83 Average	78.0	65.8	60.7	69.1	69.8*

Source: WSD

*AISI data, which cover all production not just carbon as in WSD, show that capacity utilization was 48.4% in 1982, approximately 54.5% for 9 months of 1983, and 69.4% in January, 1984.

*strike year of 1980 is excluded from average

Yield

A final measure of physical efficiency is yield (Table 7.)

Table 7

Percentage yield

(shipments/raw steel production, at actual operating rates)

	U.S.	Japan	West Germany	France	UK
1975	71	74	74	72	72
1976	72	78	75	72	72
1977	72	80	75	72	72
1978	72	82	75	73	72
1979	72	83	75	73	73
1980	73	84	75	74	73
1981	73	85	75	74	73
1982	73	86	76	75	73
1983	76*	86	76	75	75

Source: World Steel Dynamics, *Core Reports J and Q*

*Preliminary

Yields are an important measure of efficiency. According to this measure, the U.S. industry is generally less efficient than Japanese producers. There are several reasons for this. One major reason has to do with differences in product mix, since complex, higher value products inherently entail lower yields. Since the U.S. product mix is more sophisticated than that of its foreign competitors, U.S. yields will necessarily lag behind. More significant, however, is the fact that U.S. yields have been suppressed because of the inadequacy of the industry's cash flow since the late 1960s. This retarded the industry's investment in continuous casting, a technology which greatly improves yields and which became commercially viable on a large scale during the 1970s. Foreign competitors have moved more rapidly to continuous casting, although in many cases (particularly in Europe) internal cash flow has been even lower than in the U.S. In the E.C., governments have provided more than $30 billion to their steel industries over the past 10 years. The comparisons of output by the continuous casting method are contained in Table 8.

Table 8

Continuous casting percentage of 1983 shipments

United States	29.7
Japan	81.4
West Germany	69.6
France	63.3
United Kingdom	46.4

Source: WSD

It is remarkable that through a combination of other efficiencies, U.S. yield is as high as it is, with such a low percentage of continuous casting in the industry. The potential for further reductions in costs, (including energy costs) through a higher casting rate, is, therefore, much higher in the U.S. industry than among its major competitors.

Summary

What do these data tell us about the overall competitiveness of the U.S. steel industry in terms of efficiency? They show that the U.S. steel industry is still relatively competitive, although behind Japan in some respects. If the U.S. is compared only with its European competitors, where the distortions caused by subsidies and trade barriers have been most apparent, the U.S. industry is highly competitive, in two of these three basic measurements of efficiency.

Certainly there is no justification for the view that average practice in the U.S. is inferior to average practice in Europe. Nonetheless, the trends in these data are disturbing. Should they continue, the relative balance of competitiveness will eventually be altered, to the disadvantage of the U.S. industry. Thus, these data also show the necessity of timely and aggressive action now to expand the present level of industry competitiveness.

International Labor Cost Comparisons

Currently, American steelworkers are among the most highly compensated industrial workers in the world. Average employment costs in the steel industry were over

$22 at the end of 1983. Many of our steelworkers have been laid off as a result of the steel industry crisis, and the industry will probably never return to the levels of employments prevailing five years ago.

We have already demonstrated the current high level of U.S. productivity in the production of carbon steel. But substantial advantages in labor productivity can be offset by high employment costs. Employment costs in the American steel industry have had exactly this effect: the U.S. advantage in labor productivity at actual operating rates is offset by high hourly employment costs.

Trends in Employment Costs

The U.S. disadvantage is starkest in terms of hourly employment costs (Table 9). Roughly parallel trends in the growth of employment costs increase the absolute disadvantage for the U.S. steel industry.

Table 9

Hourly employment costs

(In Dollars, at Actual Operating Costs)

	U.S.	Japan	West Germany	France	U.K.
1973	7.89	4.04	5.63	4.71	2.94
1974	9.29	5.00	6.59	5.29	3.61
1975	10.83	5.54	7.61	7.23	4.56
1976	12.18	5.81	8.04	7.64	4.44
1977	13.44	7.00	9.38	8.48	4.81
1978	14.73	9.44	11.55	10.56	5.93
1979	16.39	9.73	13.55	12.91	6.68
1980	19.06	10.24	14.92	15.38	9.96
1981	20.78	11.55	13.18	12.65	9.56
1982	24.67	10.89	13.27	12.14	9.14
1983 3Q Avg	24.07	11.89	12.91	13.22	8.00
1983 3Q	23.19	11.74	12.22	12.53	7.88

Source: WSD

Steel Employment Costs and the Manufacturing Average

The premium paid to U.S. steelworkers versus the manufacturing average has been widening. Steelworkers all over the world are relatively high-paid workers. This is due to the fact that the steel industry tends to be highly unionized, the work is skilled, and often hot and hazardous. Yet the premium paid to steelworkers in the U.S. during the 1970s increased dramatically (from 133% in 1970 to 175% in 1981), so that it now far exceeds the premium paid in other countries. The divergence between employment costs in the steel industry and the manufacturing average shows more clearly than absolute employment costs the vulnerable position of steelmaking in the U.S.

Industries whose employment costs far exceed the manufacturing average will suffer a competitive disadvantage versus their international rivals. This is now the situation facing the U.S. steel industry. During the 1960s, the premium in U.S. steel employment costs actually decreased and was only marginally above the European average. This relationship broke down in the 1970s. Although the steel premium in Japan approaches that in the U.S., this is misleading. The Japanese data exclude lower-paid contract workers, who make up between 40 and 50% of the steel labor force. Inclusion of this component would likely lower the actual Japanese steel premium to near the European level—leaving the U.S. in an isolated and highly vulnerable position. Thus, even as the productivity advantage of the U.S. steel industry eroded in the 1960s and 1970s, its employment cost disadvantage increased.

Unit Labor Costs

Unit labor costs are shown on Table 10. These combine productivity and hourly employment cost data to describe unit labor costs for the U.S. steel industry and its chief competitors.

Table 10

Unit labor costs

(Dollars Per Ton Shipped at Actual Operating Rates)

	U.S.	Japan	West Germany	France	U.K.
1976	107.03	58.7	93.67	114.93	85.4
1977	120.41	69.79	118.31	122.39	103.4
1978	119.81	89.99	137.77	134.86	129.88
1979	136.17	83.31	134.4	148.04	125.67
1980	158.86	85.17	149.29	156.83	410.79*
1981	168.0	98.09	131.63	129.86	131.33
1982	194.64	87.99	147.04	132.53	122.42
1983 3Q Avg	161.78	93.0	140.16	146.87	85.20
1983 3Q	150.76	85.5	140.58	156.05	90.78
Annual Rate of Increase	6.4%	7.3%	6.2%	3.5%	–0.2%

*Strike year

Source: WSD

The U.S. industry must, and is now beginning to, reverse the trend resulting in the gradual elimination of its productivity advantage, combined with rapidly increasing employment costs. The continued viability of steel production in the United States and the future of steelworker jobs are now dependent on containing recent trends in employment costs. They are also dependent upon revisions in work rules and operating practices which would boost the industry's rate of productivity growth. Labor and management both share the responsibility for this distortion and each must play a significant role in its reversal.

The steel labor contract, which went into effect in March 1983, represents a step towards eliminating the labor-cost disadvantage of American steel producers. It reduces wages by $1.25/hr., although this reduction will be restored through the life of the contract. The contract also reduces COLA benefits, vacation and paid holiday allowances. For their part, steel firms are committed to investing these savings in existing plants and to extending supplemental unemployment benefits to laid-off steelworkers.

This agreement is an important first step, an indication that both labor and management are committed to strengthening the competitive standing of their industry.

CAUSES OF THE AMERICAN STEEL TRADE PROBLEM

The major causes of America's steel trade problem are the existence of substantial excess capacity abroad, the increase of foreign government control, subsidization and targeting of steel, and generally ineffective U.S. TRADE LAW enforcement. All of these had a direct effect on the flow of imports into the U.S. market.

Profit Record of Steel Producers

After the boom years of 1973-74, the world steel industry underwent a severe downturn. In part, this reflected overall weakness in the economies of industrialized countries, where growth has been sluggish since 1974, accentuated by the overhang of excess steel capacity on declining demand. The best indicator of the severity of the impact on steel is the profit record of steel producers.* Table 11 presents some data on the post-1974 profitability of major steel firms in the principal steel

Table 11

Consolidated return on sales: net income/sales (%)

(major producers)

	1975	1976	1977	1978	1979	1980	1981	1982
U.S.	4.3	3.3	0.4	2.5	2.1	3.0	3.9	-6.8
Japan	0.6	0.9	0.6	1.8	3.3	2.9	1.9	1.5
W. Germany	1.4	1.1	0.1	0.3	0.4	0.6		
France	-15.9	-10.7	-23.5	-14.0	-10.1	-11.5		
UK	-10.8	-3.1	-14.1	-9.4	-17.6	-22.6		
Italy	-4.0	-5.9	-17.6	-13.4	-8.3	-20.4		
Belgium	-7.9	-2.6	-13.9	-10.2	-2.5	-9.4		
Canada	6.0	4.5	4.9	6.2	7.1	7.4		

Source: World Steel Dynamics, "Financial Analysis of International Steelmakers."

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*Calculated from data provided by World Steel Dynamics, the only public model based upon statistical data on steel issued by steel industries and their governments. Developing country data is not generally available.

producing regions of the world (Europe, Japan, and the U.S.). This table clearly shows what has occurred in the world steel industry during this period. European producers amassed losses approximating 15 billion dollars from 1975 to 1980. While Japanese and North American producers earned profits in that period, margins have generally been thin. When steel segment operations alone are considered, West German, Japanese, and U.S. producers incurred operating losses in several of these years.

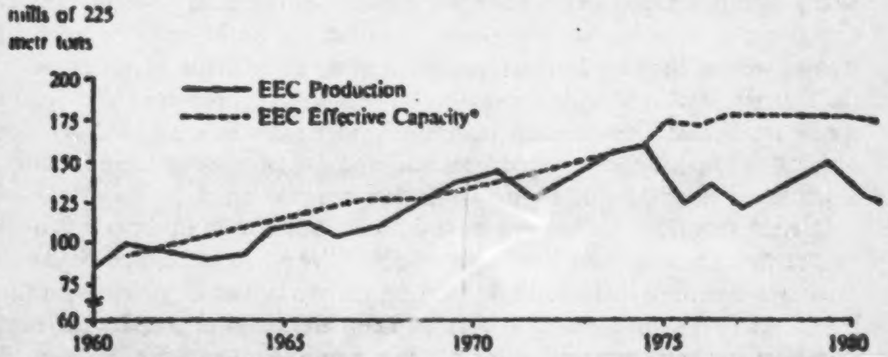
Massive and persistent losses show that the present problems of the world steel industry are structural rather than cyclical. These problems have arisen largely from foreign government actions, yet they have resulted in increased foreign government involvement. Rather than accept the losses in employment and foreign earnings which would result from the bankruptcy or reorganization of steel firms, many governments—especially in Europe and in developing countries—have increased their subsidies for steel industries. This has intensified the underlying problems resulting in the politicization of international steel trade and the near breakdown of the market mechanism. There are many causes of this, but the principal cause is the development of excess capacity worldwide, which began in the late 1960s.

European Capacity and Production

The historical trends in output and capacity in the European Community are described in Figure 1. This provides clear evidence of the extent to which capacity expansions accentuated the effects of weak demand for European steel. While European capacity and production maintained a fairly close relationship during the 1960s, they began to diverge sharply after 1975. Since that time, even peak years (such as 1979) have coincided with dangerously low operating rates.

Figure 1

European capacity and production, 1960–82



*assumed to be 87% of gross, rated capacity.

Source: WSD: Steel Strategist #5 (August, 1982)

The construction of excess capacity was not limited to Europe. Table 12 provides some evidence on the rate of capacity increases in several national steel industries, relating this to the increase in domestic demand.

Table 12

Capacity vs. consumption

	Crude Steel Capacity (million of m. tons)			Apparent Steel Consumption (million of m. tons crude steel equivalent)		
	avg., 1969-70	avg., 1979-80	annual rate of growth (%)	annual rate of growth (%)	avg., 1969-70	avg., 1979-80
Belg. Lux.	19.9	26.8	3.0	−1.6	4.56	3.89
France	25.2	32.3	2.5	−0.6	23.0	21.69
Germany	49.7	68.7	3.3	−0.5	40.98	39.08
Italy	19.5	37.2	6.7	3.0	20.21	27.25
UK*	29.1	28.7	−0.2	−2.1	24.98	20.65
Japan	81.0	156.9	6.8	2.4	67.15	84.90
U.S.	140.5	140.1	. . .	−0.1	132.95	131.14

*Calculations made for 1978-79 to eliminate effects of 1980 strike.

Sources: U.N. statistics for capacity, OECD statistics for apparent consumption.

This table shows that during the 1970s the major European countries and Japan had growth in capacity exceeding the growth in consumption, but that the United States did not. In almost all other countries, substantial investments were made to increase capacity which domestic markets could not absorb. As a result, many industries were, in effect, forced to rely on export markets to boost or maintain operating rates.

It now appears that overaggressive expansion on the part of the Japanese steel industry was a serious strategic mistake. The prosperity and efficiency of the Japanese industry has been based on rapid expansion ahead of the market, providing significant economies of scale. Economies of scale quickly turn into diseconomies, however, when operating rates fall. As world steel demand has remained weaker than the forecasts projected in the early 1970s, excess capacity in the Japanese steel industry has continued to be a persistent problem. That industry is now facing cash-flow constraints, relatively high financial costs, and significant physical inefficiencies due to the logistical problems of running large facilities at much lower rates than those for which they were designed.

Overexpansion has led to even more difficult problems in Europe. It is doubtful that firms run by private managers would have pursued the kind of capacity expansion described in Table 12. In Europe, the availability of government funding (either directly or through loan guarantees) and political pressure for expansion were the key elements leading to the boom in steel capacity between 1965 and 1975. Yet, the politicization of investment decisions during that period has been a major cause of Europe's present crisis of excess steel capacity.

In the advanced developing countries, overexpansion of the steel sector has led to a vicious cycle of growing foreign debt, industry losses, government subsidies and unfair trade. Despite falling demand worldwide, the developing world has added some 50 million tons of new capacity since 1975. Since steel industries in the developing world (especially integrated plants) are for the most part government-owned and protected, this has accentuated the world overcapacity problem. It has done so by intensifying competitive pressures in export markets in general, and in particular in the U.S. market. Thus, U.S. steel imports from countries outside the EC, Canada and Japan, which had averaged 3.5 percent of apparent supply in the period 1979–81, rose to 5.3 percent in 1982 and to 7.6 percent in 1983 (including 8.5 percent in the second half of 1983 and nearly 10 percent so far in 1984).

Agreements to Allocate Markets

The drive to export has been linked to a related but contradictory response to the crisis of excess capacity: the effort to restrict imports. The most public examples of strict import restrictions are in Europe. Since the onset of the European steel crisis in 1975, the EEC has sought to coordinate an extensive program of market controls, regulating prices and allocating markets. Viscount Davignon of Belgium, who controls the administration of this EEC program, justified it in the following terms:

> **"The steel industry is a key factor in our independence; Europe cannot therefore allow responsibility for its steel supplies to pass outside the Community for the sake of the international division of labor."***

By the Spring of 1978, agreements had been concluded with all major exporters to the European market, stringently limiting imports into the EEC. These limitations have been regularly renewed and are still in effect. Tied to the drive to boost exports, this led to an increase in Europe's positive steel trade balance by the end of the 1970s, a point which also applies to Japan (see Table 13). In effect, these agreements left much of the world steel market subject to a cartel-like arrangement.

*A.F. Lowenfeld. *Public Controls on International Trade* (New York, 1979) p. 233.

Table 13

Steel trade balance: U.S., Japan, and EEC—1971-81

(Millions of net tons)	U.S.	Japan	EEC (9)
1971	−15.48	25.42	16.87
1972	−14,81	22.90	16.18
1973	−11,10	27.07	19.73
1974	−10.14	35.19	29.36
1975	−9.06	31.68	22.87
1976	−11.63	39.44	13.60
1977	−17.30	36.50	18.43
1978	−18.71	33.54	25.97
1979	−14.70	32.11	23.37
1980	−11.39	31.38	19.96
1981	−16.99	29.60	26.72

Note: Positive number represents trade surplus.

Source: AISI for U.S., IISI for Japan and EEC (OECD for 1981)

The extensive network of European quotas is described in Table 14. It is ironic that European steel exporters have criticized as "protectionist" the legal actions against subsidized and dumped imports taken by the U.S. steel industry, while at the same time maintaining strict control over imports into their own market. The Japanese, who normally have a competitive cost advantage against European producers, shipped only about 300,000 net tons into the EEC during 1983. Japanese shipments to the U.S. market in 1983 were 14 times greater.

In Japan, there have been similar (if less public) restrictions on steel imports, especially from low cost producers in Korea and Taiwan. Recently a published article appeared in the Japan Metal Bulletin, stating that the Japanese Steel Importers Association (formed in November 1983) had in January "voluntarily agreed" to cut back the amount of steel imports to a level not exceeding 3 percent of the total market.

In developing countries, import restrictions have been even more severe. Argentina, for example, requires import licenses for all flat rolled steel products, and such licenses are almost impossible to get. Many other developing countries rely either on high tariffs or licenses to limit steel imports. In Brazil, the most extreme example of protectionism is the so-called "Law of Similars." It means that anything that is made in Brazil cannot be imported without permission, regardless of the sufficiency of domestic production.

Subsidization and Nationalization

As world steel industry problems intensified, private firms gave way to government control. In late 1978, major steel producers were effectively nationalized in

Table 14

EEC imports, quotas, and import penetration

Monthly Averages	1979	1980	1981	1982 Jan-June	1982 quotas (total)	% of EEC apparent consumption	
						1981	Jan-June 1982
EEC apparent consumption (000 tons)	6,366.2	6,052.7	5,888.4	6,158.6			
Imports from (tons):							
quota countries	511,426	443,015	333,857	460,549	7,913,153†	5.67	7.48
of which: Hungary	23,231	21,063	15,865	22,353	371,255	0.27	0.36
Czechoslovakia	51,962	44,893	41,888	58,283	687,758	0.71	0.95
Rumania	27,675	22,612	15,117	26,007	394,303	0.26	0.42
Bulgaria	41,215	21,383	13,823	23,093	282,569*	0.24	0.38
Poland	36,052	27,226	22,540	29,037	420,618**	0.38	0.47
Austria	85,440	77,953	76,763	84,150	1,017,000	1.30	1.37
Finland	25,998	19,642	25,455	22,776	389,000	0.43	0.37
Norway	16,435	13,884	15,402	14,819	368,000	0.26	0.24
Sweden	49,940	42,329	39,982	49,426	879,000	0.68	0.80
Spain	92,696	75,983	57,822	106,068	780,000	0.98	1.72
Japan	41,084	36,885	6,572	10,214	1,220,000	0.11	0.17
South Korea	6,225	23,416	82	9,062	225,000	0.00	0.15
Australia	10,696	13,252	2,249	4,889	407,250	0.04	0.08
Imports from non-quota countries:	120,141	170,954	97,679	217,793		1.66	3.54
Total	631,568	613,969	431,536	678,342		7.33	11.02

†Includes Brazilian pig iron quota of 253,400 tons. *Plus 102,850 tons of semis. **Plus 25,000 tons of semis.

Source: Metal Bulletin, November 10, 1982.

France and Belgium. According to private European steel producers, fully 70% of all the steel companies in Europe are dependent on the state; about half of the EEC's total production is now under direct government control.

The employment effects of steel mill rationalization in certain regions of Belgium and France caused national political concerns. Government intervened to protect domestic steel producers, representing a camouflaged form of unemployment insurance. Rather than face political unrest, European governments have subsidized continued production in inefficient steel plants. Such practices, however have entailed enormous costs.

Total European subsidies, actual and projected, have been estimated at an incredible 80 billion marks for the period 1975–1985—over $30 billion even at present exchange rates. Government funds have been devoted not just to covering operating losses; they have also been applied to modernization and investment—

all under the guise of "restructuring." Table 15, below, excerpted from *Agence Europe*, documents the extensive amount of state aid provided by European governments to their steel industries. The total estimate is approximately $34 billion.

Table 15

State aid for restructuring

(millions of ECUs)

Country	Aid Notified	Approved	Approved Conditionally	Declared Incompatible
Belgium	4,304	1,721	2,196	414
Cockerill-Sambre	3,648	1,552	2,096	
Denmark	81	81		
F.R. Germany	4,314	700	3,614	
Arbed Saarstahl	1,045	664	381	
Hoesch	1,014	92	992	
Kloeckner/Maxhuette	587	31	556	
Krupp	514	3	556	
Peine-Salzgitter	225		225	
Thyssen	693		693	
Greece	6			6
France				
Sacilor and Usinor	7,613	5,501	2,112	
Ireland	231	96		135
Italy	10,270	1,661	8,609	
Finsider	8,851	695	8,156	
Luxembourg	540	144	896	
Netherlands				
Hoogovens	514	94	420	
United Kingdom				
British Steel Corp.	5,763	3,089	2,674	
Total	33,636	13,190	19,891	555

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The restructuring of the European steel industry has as its publicly announced goal the reduction of capacity to redress the balance between potential supply and demand. Recognition of this need has come fairly late in Europe—after other responses had failed to resolve the crisis. Recently, however, restructuring has been the key word for European planners. Continued government subsidies are now justified as necessary components of restructuring. European producers now justify increased subsidies by a rather peculiar logic: the old subsidies were bad, and future subsidies must be avoided, but present subsidies are necessary. The subsidies now being granted are allegedly designed to "restructure" the European steel industry so that future subsidies are not needed.

With the exception of Britain, however, many European countries are now subsidizing the replacement of inefficient facilities with new ones—with insufficient reduction in capacity. "Restructuring" subsidies will not adjust European production along lines suggested by competitive relationships (which would entail far greater capacity reductions than are occurring), but instead they will ensure that the capacity reductions occur elsewhere--presumably where steel operations and investment are not state-supported.

Unprecedented government involvement, allegedly designed to restructure European steel production on a profitable basis, has instead distorted the market mechanism and propped up inefficient producers for political reasons. The principal victims of such programs—besides European taxpayers—have been the relatively efficient private firms, which are being pushed into bankruptcy by competition from state-supported industries willing and able to sell steel at prices well below their costs of production.

While government involvement in Japan is more subtle, MITI and other agencies are deeply involved in a restructuring program. In general, the Japanese steel industry is reducing large increments of capacity and shifting to a maintenance mode, where investment is designed to raise the efficiency of existing facilities rather than to expand capacity. While Japanese subsidies do not seem to be widespread at this time, the government has controlled raw materials prices (including oil) and management of the adjustment process. As a result, buying and selling cartels have developed in both Europe and Japan; these cartels have even reached some agreements on dividing up other markets.

In countries such as Brazil, Korea and Taiwan—countries which already have significant excess capacity—there are continuing efforts to expand capacity based on policies of import substitution and export promotion. Government ownership, control and subsidization of steel is a basic fact of economic life in these countries. In Brazil, Mexico and South Korea, government ownership ranges between 68 and 75 percent, and these percentages are all expected to increase in coming years, as new government projects come on line. Meanwhile, increasing government subsidies in such countries continue to distort trade and injure U.S. producers. Equally alarming is the fact that our major foreign competitors in Europe and Japan are continuing to provide subsidized financing for their exports of steelmaking equipment to the developing world, yet these same countries severely limit their imports of steel from the plants they help fund.

The Struggle Over Where Retrenchment Will Occur

Until excess capacity abroad is reduced, our steel trade crisis will persist. Government involvement has generally kept the market from determining where capacity reductions should occur. It is the least efficient facilities which should be retired—yet many of these plants are receiving subsidies in Europe and elsewhere. Should these plants survive and more efficient private plants be closed, the net loss to the world economy in terms of efficiency will be substantial. More significant is the fact that jobs and income will be lost in regions which have resisted playing the subsidies game. This is the key factor in the present steel trade problem.

In some ways the U.S. steel industry was better able to cope with foreign excess capacity than its international counterparts—at least until the catastrophic downturn of 1982–83. This provides some evidence of the advantages of a private, market-based industry. The U.S. industry has not expanded its capacity, *even though it cannot supply all of its home market in a year of strong demand.* Yet in many ways the U.S. steel industry has suffered most from the over-expansion of world steel capacity. Our trade laws have not prevented the U.S. market from being seriously injured by surging imports of unfairly traded steel. The U.S. steel market is the most open major steel market in the world, and U.S. sales are the chief "spoils" in the intense struggle for exports among countries with substantial excess capacity. Most significantly, U.S. producers are dependent on private capital markets for funds. Inefficient operations are sustained abroad via government supports, but no such props exist for U.S. firms, regardless of relative efficiency.

MARKET MECHANISM DISMANTLED

As we have noted, the market mechanism in steel has been more or less dismantled outside the United States. As a result, the price information which the market provides is misleading in regard to where capital should be invested, and where retrenchment should occur. Furthermore, the distorting effects of government intervention have been intensified by recent trends in exchange rates.

The messages given by market prices for steel from many foreign sources do not reflect underlying competitiveness of these sources. The surge of imported steel since 1980 stems largely from intervention by foreign governments and from the disastrous effects of an overvalued dollar. If we look behind these factors, it is demonstrable the underlying competitive standing of the American steel industry is still relatively strong. There is clearly no basis for arguing that immutable factors support further massive contraction in the U.S. industry, or that government policies designed to assist the industry cannot reverse its current decline.

Mr. Chairman, there has been no definitive response from a succession of Administrations to the trade distortions we have outlined in this statement. Accordingly, we now urge the Congress to begin the process of returning some equity to the trade in steel by enacting H.R. 5081, the Fair Trade in Steel Act. This legislation, permitting us to further modernize, would limit steel imports for five years to the average level which occurred in the 1970s, a level higher than that allowed by any other advanced industrial country today (including the EC as one trading unit). This would be a moderate response of the U.S., Mr. Chairman, to the outrageous conditions we have described affecting world trade in steel.

Representative HAMILTON. Thank you very much, Mr. Thomas. The final witness on the panel will be Mr. Schacht from Cummins Engine Co.

STATEMENT OF HENRY SCHACHT, CHAIRMAN OF THE BOARD, CUMMINS ENGINE CO.

Mr. SCHACHT. I'd like to start my remarks with a basic premise, and that is that Indiana greatly depends on its manufacturing sector and more so than its neighboring States. I think the numbers will show that we generate about 29 percent of our employment in heavy manufacturing in Indiana as opposed to about 21 percent nationwide. I think that defines the issue for both this panel and for the State, and I believe that a close examination of the numbers would suggest that we are more heavily dependent on heavy manufacturing than light manufacturing, a fact to which Mr. Thomas has already alluded.

The simple fact of the matter is that heavy manufacturing is in a worldwide competitive battle. It is no longer domestic. It is no longer State by State. It is worldwide. The outcome of that battle is not clear, but I think most of us involved in that battle are optimistic. I think heavy industry in the United States is going to be competitive. We've our work to do. That work is underway. I think there probably is more progress than are yet willing to talk about, but, long-term heavy industry in this country will be competitive.

So when you talk about the outlook for Indiana in the industrial Midwest, you really can divide that into three parts: the outlook in the State, the outlook in the industry itself, and then the national outlook, and I'd like to touch on each of those just briefly.

In Indiana, the employment mix is going to continue to shift over time. The manufacturing sector is going to be important, but I believe it will decline as a percentage of employment. I don't think that is an issue in doubt. It is an issue to be dealt with. I don't think that's something to be worried about. I think it's something to anticipate and begin to plan ahead for now.

There are several reasons for that, but the reason that has not yet been mentioned this morning is that the markets served by heavy industry are essentially flat. They're not growing, and the essential need within heavy manufacturing is for increased productivity. And when you have flat markets and increased productivity, you are going to see a slow erosion of the number of people employed in the production of heavy goods, and I think that is what we are looking at.

Productivity is the key. We're hard at work at it. Competition is international, and that combination says that heavy manufacturing, while it will retain its value added, it is unlikely it will be the generator of future additional employment either in this State or in the industrial Midwest. Therefore, when you're talking about growth of employment in general, you have to talk about what then we should be worried about. We need to be concerned in those portions of the United States that are overly dependent now on heavy industry to create the climate that will bring the newer and faster growing kinds of jobs to take their place alongside the currently dominant sector of heavy industry. We're talking about knowledge industries. We're talking about new light manufacturing industries, high technology industries. We're talking about services.

As long as your heavy manufacturing industry is healthy, it will generate demand for technologies and services from outside its own firm, and therefore, as long as we can retain the value added in this country and nation, heavy industry, although not generating additional employment directly, will generate a second level of employment in services and in technologies. Therefore, as we look forward in the Midwest and particularly in Indiana, the bipartisan efforts that are now being focused on increasing our attention to and investment in education, in infrastructure, and in creating the kind of climate that is conducive to the bringing of knowledge industries to and the generating of knowledge industries in the State, are all in the right direction. I think they need to be accelerated, but I think when you look at our climate, I think we're moving in the right direction.

Let's talk about the second element, then. What's the outlook in the heavy industry, and I think it is simple to say that a lot is going on. All of us in heavy industry are aware that this is no longer a regional battle for survival and supremacy. This is no longer a national battle. As Mr. Thomas said, it's an international battle, and the competition is fierce.

The issue at stake is where will the value added for U.S. industry take place? Will it continue to take place as it does now in this country? The answer to that is, I believe, yes, but that is dependent on a great number of things, about half of which I think is in the control of the management—and I'd like to talk about that first—and the other half of which, as both you gentlemen know, has to do with the downstream conditions of our budget deficits.

Let's first talk about what management ought to be doing and is trying to do now and how likely is it to be successful.

First, I think it is clear that the Japanese have set the standard in productivity as measured by the international competitiveness of heavy industry. It is clear that we have a lot of work to do, and that is not good news. How we got there is another issue, but the fact is we acknowledge that we recognize it is management's job to close the gap. It is a "we" issue. It is not a "we/they" issue. The we issue means that all the thousands of employees at any given firm have to find a way to rally together to close what is now a significant competitive gap in productivity. I believe that is underway. I believe it will be successful. It will not come overnight, but I'm optimistic.

We intend to catch up. We intend to catch up, and then we intend to lead. I believe both of those are possible, but they will not come quickly and they will not generate new direct employment opportunities.

The simple fact of the matter is that in this international battle for heavy industry and for capital goods, there is worldwide excess capacity now; and more is being generated, particularly in the lesser developed nations. There is more ability to produce than there is any likely ability to consume, and that means that all of us will be in a worldwide competitive battle for the markets that are there. We intend to be there among the leaders, but that means a very hard drive on productivity. That means if you're looking for new employment, it has to come from other sectors.

Let me give you some examples. If I have my numbers right, in Indiana alone since 1979, from the onset of this 4-year recession that just now is turning around, we lost about 150,000 jobs in durable goods manufacturing. Since the start of the recovery we have put back 30,000 to 35,000 jobs at what many people feel is near the peak of recovery. Now, that gives you some indication of both the level of the recovery and the drive for productivity that has accompanied this change in the competitive environment.

Let me talk a little bit about our own individual firm because it's, I suspect, no better or no worse than most, and it's typical and instructive. Like United States Steel, we have been heavy investors over the last 4-year period. We have invested more money in the last 4-year period than any 4-year period in our history. We have put $1.3 billion into our manufacturing sector to completely retool our product line to generate an internationally competitive product at internationally competitive costs. This program is about two-thirds of the way done, and it is still changing the mix of our product base.

We put 5 percent of our sales into R&D, and that is among the highest of any company I know. We have been quite successful, as we now have 60 to 65 percent of the current North American heavy-duty market for on-highway diesel engines, but that is not secure when measured against tougher standards emerging in the international arena. We simply have much work to do to be and remain competitive. In our firm, we call it our new standards of excellence. Every other firm has another name for it. What it simply means is to drive the cost of the product to the consumer down dramatically, and you do that in flat markets through a major increase in productivity.

We have continued to provide work as we generate our productivity gains, but that does not mean that we'll be employing more people, and I think that is what you're going to find across all of heavy manufacturing. We're going to get our cost down. We're going to be competitive worldwide. We're going to do it through higher standards as a whole set of new ways of doing business together.

We believe we have an extremely good and cooperative climate with all of our 18,000 to 19,000 colleagues worldwide, and we intend to keep it. We had an early settlement in our southern Indiana work force which was jointly arrived at. We've gone to profit sharing. We've done a whole host of things together with all the people in the Columbus area, but we have just begun.

I think that the competitive outlook for the U.S. industry worldwide is very good, but I don't think we can do it alone, and here's where the U.S. citizenry needs to rally around. It's time to stop pointing our fingers at the Congress because you represent what we are. We have to send you a message somehow that is unquestionable and clear, and that is that $200 billion deficits are not sustainable and will absolutely wreck any attempts we make to generate increased productivity. The obligation to achieve increased productivity in our shop is on all of us who work together at Cummins and on those who work together in other firms, but $200 billion deficits do count.

I personally believe that they generate the high interest rates we are seeing, and they're going to go higher, and I believe they generate the highly valued dollar and the consequent very large surge of imports we are seeing, and I think it exacerbates the international debt crisis. The deficit problem is going to swamp our internal efforts unless something is done. A 230 to 240 yen to the dollar is simply unacceptable. I think this is a form of national self-indulgence we cannot afford.

The issues are no surprise. They are defense, entitlements, and taxes. If we want to spend on one and two at the rates projected, taxes have to go up. If we don't want taxes to go up, then we have to do something about national defense and entitlements; the numbers are there. If the Congress can be an enacting and enabling element, I hope you will be. If we among us have to find a way to generate the message that $200 billion deficits just can't go on, I hope we will find a way. I hope this hearing will help answer some of these questions.

Representative **Hamilton**. You've been an excellent panel and have raised a tremendous number of questions. Our time is limited. We thank you all for your excellent testimony.

Let's begin with this business of the competitive situation in Indiana. Several of you have pointed out that manufacturing is very important to our State. If you will look at our employment growth since the mid-1960's, it's been slower in Indiana than in the country as a whole. Job growth in Indiana fell below the national average in every major industry except primary metals from 1974 to 1980, and these are as good a statistic as we can come up with here.

Indiana lost 5 percent of its jobs in electrical and nonelectrical machinery industries. That's compared to an average increase of 12 percent nationwide. In transportation equipment which is very big in Indiana, over the same time period, we lost 15 percent of the jobs while the country as a whole gained 8 percent. In pharmaceuticals, plastics, and chemical-related industries, Indiana lost 1 percent of its jobs, again between 1974 and 1980, compared to an average gain of 6 percent nationwide.

Now, Mr. Schacht just gave us some statistics on what has happened in this most recent recession, 150,000 jobs lost, and I think you said we put back thirty some thousand. That's 120,000 jobs lost. What does that say to us? I mean, is this something that we really need to be deeply worried about? What does this indicate about the competitiveness of Indiana industries?

I'm just going to address that to the panel and let each of you speak as you want to. Any volunteers? Hank?

Mr. **Schacht**. I think that we're working on a two-edged sword here. If the markets served by the heavy manufacturing sector are relatively flat—and Indiana is a heavy manufacturing-based economy or has been historically—then to be competitive works against increasing employment, and in flat markets, in fact, it works toward somewhat lower employment as a general matter. Therefore, for Indiana, I think we're talking about an employment mix shift over time.

We will need policies to serve both the competitive heavy industry that will remain and other industries. But the new employment generation will not come directly from heavy manufacturing and I think that is an argument we need to put at rest. It's not because we aren't doing our job. In some ways, we are doing our jobs. But with the mix shifts, Indiana will approach closer to the national averages in employment mix, and that ought to be fostered and encouraged rather than in some way restrained.

Representative HAMILTON. What do you mean when you talk about the market being flat? The time frame is very important there. Does that mean it's flat for a long time to come, and if that's true, that's a very sobering thought in regard to manufacturing.

Mr. SCHACHT. I believe that for some substantial period of time, the growth in our goods-producing sectors has been relatively flat. They had been growing, generally, at the same rate as the economy, but over the last 10 years have been growing somewhat more slowly than the economy. Most of the growth has come in service industries and in higher technology industries rather than the historical heavy industry manufacturing. That is probably a natural shift that's been going on for some period of time. When we look at the markets we serve, we see very little growth over time.

Representative HAMILTON. But that includes the export market, as well?

Mr. SCHACHT. Well, right now, the export market for heavy manufactured goods is very difficult to serve from the U.S. manufacturing base, and most of us have had to put some plants up outside this country.

Representative HAMILTON. That's because of the value of the dollar?

Mr. SCHACHT. Well, it's either the value of the dollar or closed borders overseas for our kind of products. For example, right now, take heavy-duty trucks. It's a market we serve. About 10 percent of the heavy-duty trucks produced in this country have been exported historically over time. Right now, that number is zero. But for heavy industry, the key factor is learning to produce in a very slow growth market with fewer and fewer resources per unit of output and that adversely affects direct employment in heavy industrial sectors.

Representative HAMILTON. How about the rest of you here on this business of competitiveness or growth of jobs?

Mr. HUSER. I'd like to answer that, basically, from the machine tool industry. The machine tool industry——

Representative HAMILTON. This is a very important one in Indiana.

Mr. HUSER. It's a very important industry to the survival of the country.

Representative HAMILTON. Yes.

Mr. HUSER. We have a section 232 before Congress or before the President right now which you have supported and, I believe, almost every Senator—and I know both Senators and all of the Representatives of the State of Indiana supported this, and yet, we're not getting the action that we feel that we should have on it.

The machine tool industry is, basically a small industry in the numbers of companies involved. There are approximately 300 machine tool builders in the United States in this industry alone. From 1980 to 1982, the industry fell off 82 percent. Now, that's a tremendous fall off, and the problem that we have is our survival. If we were to ever get into another conventional war, for instance, as we know in 1941 or in 1950, this country could not survive. We do not really have that type of friends across the ponds anymore that would actually be at our background to help us in this type of thing.

Representative HAMILTON. Who are our major competitors in machine tools overseas?

Mr. HUSER. Well, Japan, of course, is a great one. Western Europe is great. The Soviet Union and its countries are coming into that picture. Even in the Mideast, in Israel, in Saudi Arabia, and places like that, and actually, when China comes on board where you've a billion people over there that you're going to be going back to the 35 to 65 cents an hour wage again, it's going to be almost impossible. In our particular industry here in Indiana, we are competing against the Canadians and, in many areas, with a dollar devaluation of about 25 to 28 cents difference, and so that means that, actually, American industry can buy 25 to 28 percent less in cost than what we can produce at just because of the difference in the monetary value, and we're faced with this, with the stronger dollar, in both Europe and Japan.

Mr. WHYBARK. Let me just follow up for a moment on the notion of the machine tool industry and this change of mix. There's two kinds of mix changes. I think I would agree with Mr. Schacht that there's a shift in the mix of jobs from the heavy industries to lighter industry and supporting service industries, but even within those industries that will remain pretty much the same, there's a shift in the skills required. In the machine tool industry, in particular, the whole growth in machine tool demand that's now occurring is for a different base of machine tools.

There's a lot more technology involved, and a lot more skill involved in both the design and manufacture of the products than previously, so there are the two kinds of shifts taking place, and the "we/they" kind of notion is important.

Mr. THOMAS. I think I heard you say, Mr. Chairman, that the one area in which Indiana hadn't lagged in growth was primary metals. I suspect that there is a reduction or negative both in the country and in Indiana in primary metals. I don't know that that's true, but I would guess it is.

Representative HAMILTON. My figures only go up to 1980, so they're obviously out of date.

Mr. THOMAS. What has happened since then, I would speculate, is that both numbers have come down in that negative growth in primary metals but that Indiana has probably come down less which indicates an advantage that may be a continuing one. The plants in Indiana relate more to what we call a consumer market—light, flat rolled steels that go into automotive appliances, housing, things like that rather than the heavy products like structurals and plates and so forth that go into big industrial projects or big Government projects. That may be turning around a little bit now because these record imports in the first 4 months are characterized by substantial increase in imports of those flat rolled steels that have been somewhat of a savior for Indiana.

We're operating at a higher level in Indiana than we have been for the last 2 or 3 years than anywhere else, but it's an undesirable and a rather dangerous trend, I think, to see those flat rolled imports coming in to the degree they were.

One of the reasons the Justice Department turned down our efforts at merging with National Steel is they said foreign imports in the flat rolled area, which is largely what you're acquiring from National Steel, aren't that important. Well, the last 4 months have shown that that was entirely wrong, so if Indiana gets the benefit of the Fair Trade in Steel Act and imports at some rational and reasonable level, I think they'll have the continuing advantage because, as Mr. Schacht says, heavy producers are not going to be that great in the foreseeable future and haven't been that great in the past, but I think consumer related steel is still going to be a very viable item.

Representative **Hamilton**. I want to come back to you in just a minute on this bill that we have because I have a question or two about that, but I think it's the consensus of the panel here that we're really not going to see much growth in jobs in manufacturing in Indiana in the near future. Is that a general consensus or not?

Mr. **Schacht**. Mr. Chairman, could I make that just a bit more complex because I think it's important to say we will see manufacturing growth. I think it will be of a different nature, and I think it's important that we make that distinction. What have been the primary generators of employment—the big, heavy, durable goods manufacturers—will certainly be more productive and, in a relatively flat market over time, will not provide new jobs. But I think industries that service both these and other segments of the economy and help heavy manufacturing to become more productive, such as high technology manufacturing and business services will generate employment, some of which will be classified as manufacturing. I just think it is the mix that will be different.

Representative **Hamilton**. I see.

Mr. **Schacht**. I don't think were going to go to an all service-based economy; that is, provided we can keep the value added in heavy manufacturing in this country, that's the major proviso, and I think it is the big risk right now.

Representative **Hamilton**. What do you mean by that value added? We're not all economists in this room. What does that term mean?

Mr. **Schacht**. Well, what I'm talking about is we take into our factories semifinished material, and we turn out finished material, and the value added between those two levels of production is the economic value that any plant puts into the product. Let me use an agricultural example.

Back in the late 1800's, the U.S. economy was agriculturally based, but, over time we moved all our people from that employment base to manufacturing. The key there is we'd still do the farming here, and everything that the farm economy generates, although it does not provide a lot of direct employment, directly generates a lot of value added which attracts seed companies and equipment companies and finance companies and all of the service areas technology.

We're in the same, it seems to me, relative position in heavy manufacturing. We're using fewer and fewer people directly in heavy manufacturing, and we're moving into higher technology and service industries, but the issue here has to do with the value of the dollar.

If in heavy manufacturing we both reduce employment and move the value added overseas, then the new technology and service industries that serve heavy manufacturing go with it, and that's the big concern right now.

Representative **HAMILTON**. Therefore, the case is very different from the agricultural example.

Mr. **SCHACHT**. And there's where I believe the agricultural example really may differ because there we did leave the value added here, and the urgent need for action on the strong dollar is that we are exporting both jobs and value-added activities every day in small increments. It is happening every day in small increments because manufacturing companies can adjust quicker than can social institutions. The strong dollar just drives this process. It's not just steel and diesel engines. It's throughout our entire economy, and we're doing it to ourselves, and we don't need to.

Representative **MCCLOSKEY**. If I might ask Mr. Thomas two quick questions. I think you've given us an excellent statement of the past and the present fortunes of steel. Has your analysis as to the priority required for the Fair Trade in Steel Act gone into the future of what would be the likely employment and business situation in Indiana with respect to whether or not the act is passed? Second, in relation to what Mr. Huser said about the times of national peril, could you mention trends in the steel industry in relation to national security, Mr. Thomas?

Mr. **THOMAS**. Yes, with respect to the first, of course it's very difficult to put a precise number on additional employment, but the Gary Works is a good example even though the product which Gary basically produces, flat rolled steel, was in high demand in 1983 because of strong automotive, strong housing, strong appliance market. They didn't operate at capacity. They were 1,300,000 tons short of their capacity which, essentially, was due to the fact that imports took those tons at lower prices and at subsidized prices.

Now, how many jobs are represented by that million tons a year? I can't put a precise number on it, but it is substantial, and it's especially important because it's incremental, and it means the survival or nonsurvival of a plant. You get those heavy fixed costs and you get another million tons into a plant, it can make a difference between that plant existing or not existing, so it is very important, I think.

The second question was related to national security, and I would agree with what was said earlier by Mr. Huser, that if we got into a conventional war again—and you can argue about what the next war is going to be like—we hope we don't have any—you'd have a very serious problem. We're the only industrialized Nation in the world that can't take care of its own steel needs, and unfortunately, the heavier steel products which are the ones that you especially need in the time of war are the ones that are going by the boards because, as Mr. Schacht said, "We haven't had a good capital goods market for some time." Incidentally, I was very pleased to hear Congressman Hamilton's interest in the infrastructure question because if we solve this Nation's problems in terms of roads, bridges, locks, and dams, for these aging facilities which have just served their engineering life, we will, in the process, not only take care of that infrastructure problem, but the well-being of the citizens and, again, national security, but we'll create a lot of jobs in the process, and a great many of those are going to be in the steel area where the heavy product plants are badly under utilized.

Representative HAMILTON. Mr. Thomas, you've asked us to take a look at this quota bill, and we certainly will. I want you to take a look at this national infrastructure fund proposal. It's an innovative way of trying to close the gap between our needs and available money——

Mr. THOMAS. Yes.

Representative HAMILTON [continuing]. For infrastructure. We just introduced the bill the other day in Congress. It, obviously, will not go very far this year, but it's tremendously important in the future, and we'd appreciate your taking a look at that, too, and letting me know what you think about it.

Mr. THOMAS. You can be sure I will. I heard about it from Terry this morning, and I heard generally about it before. I'm chairman of the task force in the Greater Pittsburgh area on the infrastructure of Pittsburgh. We've been working for 1½ years, now, and one thing that's obvious to us in that work on the infrastructure of Greater Pittsburgh, which has some peculiar problems in the area of bridges and locks and dams and so forth, is that the job is not able to be done without substantial Federal participation, so we'll be happy to look at that, and we'll be helpful in any way we can.

Representative HAMILTON. All right.

Representative MCCLOSKEY. Can anyone comment on the impact of the Federal Government's share of borrowing and competition with the private sector? It has become as high as 70 percent. I hear ranges from 60 percent now. Just how are we going to have a recovery with these?

Mr. SCHACHT. We aren't.

Mr. HUSER. There's no way that we can.

Mr. SCHACHT. I think the crowding out issue is real. I think it has just started. I think the prime rate has gone up four times so far this year. I don't know why we're surprised to find that to fund a $200 billion deficit in the face of a growing economy, we're going to have crowding out. When you have crowding out, interest rates go up. I think that's generally accepted. Some argue this point, but rates are going up. I believe we are having crowding out. I think we are in danger of aborting a recovery that does not need to be aborted.

Representative HAMILTON. Mr. Whybark, let me ask you about one of your statements on management. You had a comment or two about that. I don't want to put these managers on the spot here this morning, but you said something about the managers having a short-term focus, and we hear a lot about that in Washington. Is that really a genuine problem? Is that a problem in Indiana, to your knowledge, or how do you feel?

Mr. **Whybark**. I think it has been a very, very genuine problem. I think that that's changing. We've heard in some of the statements today about the longer term view and the investments that are being taken, but it's still a problem, and one of the impacts, I think, of the competition for funds—back to your point—is that forces a short-term view. One with very, very high-interest rates is forced to make decisions that have very short-term consequences, and the implications of that are difficult.

Representative **Hamilton**. Politicians have to be pretty careful about criticizing anybody for short-term objectives.

Mr. **Whybark**. True, very true.

Representative **Hamilton**. But you think it's improving, not only nationally, but in the State, as well. Is that——

Mr. **Whybark**. I think it is improving in the State. I would like to tie that in to another notion, though. We look to the smaller firms and entrepreneurships for a lot of the growth of jobs in the future. We look to that shift of moving to the service and support kinds of industries. Like Mr. Huser was saying, many of the members of the Indiana Manufacturing Association have less than 200 employees, and in focusing on the growth in the smaller companies, in manufacturing support companies, I think the impact of both Federal and State investments in the infrastructure and the competition for funds is very severe. It can inhibit very much the growth of the firms or sap the growth of smaller firms.

Representative **Hamilton**. We're jumping around quite a bit, but our time is very limited. You had a statement, Mr. Thomas, that struck me, and that's about health care costs in Indiana running 35 percent above your corporate average nationwide. Now, we hear constantly that our health care in this State is in good shape and our hospitals are well below the national average in costs and that the rise in health care costs has not been as great. What's happened here?

Mr. **Thomas**. Well, I think as I also indicated, most of that related to length of stay and some other things that were controllable and not necessarily the basic costs, in a unit, in a care unit. We did get some help through this legislation. We've helped ourselves, also, through a more extensive audit program, and we've made some improvements on that, but it is factual that as we audited these costs and analyzed them and so forth, they were substantially higher here.

Representative **Hamilton**. Is that the experience of Cummins?

Mr. **Schacht**. Yes.

Mr. **Thomas**. Most of our area, of course, is centered up around the Gary area because 99 percent of our employees are up in that area.

Representative **Hamilton**. You mentioned that in your statement, too, Mr. Huser.

Mr. **Huser**. Yes; and actually, we have found out, like he said, that the individual costs of hospitals, for instance, was not always necessarily the answer. Maybe Indiana is lower in its hospital costs rate per bed. On the other hand, I think that manufacturers have also found that, actually, the first dollar cost type of thing was the thing that was carrying a lot of these costs way beyond control, and now that we started to look at different things in deductibles and things of that nature and letting the employee carry a certain portion of that first dollar cost, some of that has actually dropped off quite extensively.

Also, we just had a panel recently at our convention, and a lot of these costs that I don't think that the average person thinks about is due to—a lot of the things that we're sharing costs on are actually due to major things like heart transplants, hip transplants, joint transplants, all of this type of thing that are very, very expensive operations that are done to very few people that, actually, as far as the cost is concerned, is being shared by all, and I think that a lot of this is actually—I don't know just where it's going from this standpoint, but it is a fact that this is creating many of the costs.

Representative **Hamilton**. Mr. Schacht.

Mr. **Schacht**. I'll just introduce one concept for you, and that is I think we have not properly framed the health care debate. It is not moderation of rate of increase that is required. It is reduction in costs, and I don't think we're there yet. We can't accept moderation of the rate of increase as a target for one of the largest single unit costs in a capital good. We've to sit down with each of our health care providers and say, "Look, like any other supplier, we expect better quality and lower prices over time," and we're just not there yet, and to be competitive worldwide, our health care costs, although our service is, outstanding, our health care costs have to begin to come down on a per piece basis, and the debate isn't yet engaged at the proper level. I do not believe that's a tough thing to talk to a lot of people about, but I think the issue needs to be framed in that stark a nature.

Representative **Hamilton**. I don't know of any public policy problem that is more difficult right at the moment than rising health care costs.

Mr. **Schacht**. That's right. It touches each one of us individually, and it is very difficult because we think of it in an institutional setting one way, and we think of it individually in quite another way.

Representative **Hamilton**. Now, Mr. Thomas, let me talk about this quota bill just a minute. I happen to have a letter in my hand from Mr. Brock and Mr. Baldrige. You may have seen that letter in which they expressed to me, as they expressed to other Members of the Congress, very strong opposition to that steel quota bill, and I'll just pick a few sentences out of it for you and let you respond as you would like. I'm quoting now:

> The dangers posed by this legislation to our greater domestic and international economic interests are clear. While they risk great harm to the remainder of the country, they also discourage adjustment within the steel industry itself by dramatically curtailing the degree of foreign competition in the U.S. market. The global quotas proposed in this bill would insulate the industry and delay progress toward urgently needed modernization, cost containment, and productivity, and I'm jumping around a little bit, and then they say, This administration opposes the steel quota bill in the strongest possible terms. Such legislation is inconsistent with our international trade agreements and circumvents trade statutes that have proven effective when utilized correctly in response to unfair practices. Further, it will cause other U.S. industries to pay the price of protectionism through foreign retaliation and artificially increased prices.

That's not exactly a ringing endorsement of that bill.

Mr. **Thomas**. Well, there's no question but that the administration is opposed to this bill, and that's one of the reasons why we feel the section 201 relief action filed by Bethlehem before the International Trade Commission is not going to be an adequate solution of the problem because they asked for the same relief this bill asks for. Bethlehem strongly supports this bill, but the President has to finally grant that relief. It's obvious with the kinds of ideas that were expressed in that letter, that when it comes time for him to make that judgment, he's not going to be sympathetic, so we feel the only way is for the Congress to do this job for us.

Now, with respect to retaliation, I don't see how there is a fair case for retaliation when, as I say, we would be the most liberal Nation in the world in the terms of letting steel into our borders.

Representative **Hamilton**. I picked that up in your statement this morning.

Mr. **Thomas**. The Japanese, for example, have just set their level at which they'll let steel into their borders at 3 percent. The Brazilians won't let any in because they have this "Similars" Act which says anything that's produced in the country without regard to whether they can produce enough for the country, you can't bring anything in without a permit. The European Economic Community has shunned steel away from its borders from all countries including Japan and caused some dislocations. The fact that 15 percent would continue to come in is still a very strong competitive force because that's the average that we had through the 1970's when the industry was laboring under the competitive disadvantage of having to deal with those tons, 15 percent, coming in at prices substantially below the costs of producing it.

In this longer piece that we're submitting as a part of our presentation, you'll see that mentioned, the domestic industry costs of producing for this market are substantially lower than the costs in Japan and these other countries. Mr. Schacht mentioned productivity, and we worked hard on that, and we're going to continue to work hard on that with or without a trade bill.

Representative **Hamilton**. The ITC wondered if steel products warrant protection.

Mr. **Thomas**. Ruled there was injury.

Representative **Hamilton**. That's right, there was injury. Now, that goes to the President as I understand?

Mr. **Thomas**. Well, they have to submit recommendations to the President. It might be that, as in the case of copper, there will be individual recommendations from individual commissioners, and of course, then the President can choose from any of those or adopt his own. He really has the ultimate discretion.

Representative **Hamilton**. How would you like to see the President rule in that case?

Mr. **Thomas**. I'd like to have the President find injury and adopt what the petitioner asked for, which is a 15 percent import level which is the same thing that this legislation asks for.

Representative **Hamilton**. You could get, through Presidential action, the same kind of results you get through legislation.

Mr. **Thomas**. You could, but that letter from two of the members of the Cabinet indicates that that is not very likely to happen.

Mr. HUSER. We have, basically, the same problem that the steel industry has in their 232, and actually, this has been cleared by both sides of the aisle, and both Houses have actually approved it, and even Baldrige has approved it, and it's gone to the President, and yet, we are not getting action on it, and that action was supposed to take place by March 15, I believe, originally.

Mr. SCHACHT. I think we have a conceptual problem again. We are debating an issue called free trade. We're the only major free trade country left. We need to decide as a matter of national policy what fair trade is, and if we would express it in that terminology, I think our debate would be much sharper and much more helpful.

To debate free trade when we're the only major open market left in the world is not helpful; rather, we need to talk about what is a level playing field where we don't, as managers, get any break, but where what is fair for all players is the issue. If we would only talk fair trade, I think the ideology might disappear, and we might get down to cases like in steel.

Representative MCCLOSKEY. I wasn't going to ask this because perhaps it sounds too simple. But concerning what you just said Mr. Schacht, what is the problem, then, in getting over to the American press—even though much the press is so-called liberal—that we do not have fair trade? The New York Times, Washington Post, one paper after another beats on "blatantly protectionist legislation." And Mr. Thomas, I'd like to ask how Mr. Brock can look your industry's leaders in the eye when he gives us Japan's practices versus our own. What is the problem with communicating this to the media, if not to Mr. Brock?

Mr. THOMAS. The problem I've had is that they don't like to print that. I mean it doesn't coincide with their preexisting views. Now, a few will, but they want to print that the steel companies here have old, obsolete, inefficient facilities. In measures of productivity, they say we're way behind. As mentioned in this particular paper that we're submitting, the detail paper, you'll see the man-hours per net ton shift were lower in this country than in Japan and substantially lower than West Germany, France, and the United Kingdom.

Now, it's very difficult to get somebody who's predisposed to an idea and has read editorials and written them for years that the industry has been negligent and laggard and hasn't invested, has old facilities—it's difficult to get time to get them to change their minds, and they say, "Well, those are your numbers," and so forth, but incidentally, the numbers in here are not industry's numbers, but they come from the Peter Marcus-Paine Webber Model, and he's one of the student's of steel dynamics and in no way is paid by the industry. He's an independent.

Mr. SCHACHT. I think we all bring a lot of baggage to this discussion, and I would call it theological baggage. The private sector comes with a certain set of vocabulary. The public sector comes with a certain set of vocabulary. The educational sector comes with a certain set of vocabulary. And we're all talking by each other. I don't think we can blame the media. I don't think we can blame the administration. I don't think we can blame the opposition or the general public or various private interests. It is too important to be pointing fingers.

Structurally I think it's information that we need and an exchange of information in tripartite dialog. I think there are many institutions in Washington that are beginning to recognize the issue is not who's doing what to whom but to get at a common set of facts from which we can all then debate public policy and public/private policy issues. I think the number of institutions in and around Washington, of both liberal and of conservative persuasion, would serve us all better by bringing us together to talk about facts rather than theology. That should include the press and leaders of our public representative institutions.

We in the business community do the same thing. We get up and make our speeches, full of rhetoric, and they're not helpful, and so we all need, I think, to tone down the rhetoric and stop talking the theology and instead talk about the specific facts involved. They are usually surprising to everybody. If we start there with a fact-based set of discussions among the many constituencies—I really believe there's common ground—then more of that and less rhetoric from all of us, I think, would be helpful.

Representative HAMILTON. Well, I see I made one big mistake today, and that is I didn't give enough time to this panel. We appreciate very much your contributions, excellent statements, and responses. We thank you all. We'll be in touch with you further, I'm sure, and we express our appreciation to you and the enterprises that you represent. Thank you very, very much.

I'll call the other panel members for the next panel on services forward, and we'll give them a few minutes to get lined up.

[Whereupon, at 9:55 a.m., the subcommittee recessed, to reconvene at 10:05 a.m., the same day.]

SERVICES PANEL

Representative HAMILTON. Good morning, gentlemen. We're delighted to have you here. This is the second panel. The first one was on manufacturing, and we move, now, to services. We have four excellent witnesses with us. We look forward to your observations and comments about the service sector of the Indiana economy. We'll let you go ahead with your statements. I hope you'll be able to keep those statements down to about 10 minutes overall, and that will leave a little more time for questions.

Mr. Marchese, we'd be glad to start with you, vice president-governmental relations, Lincoln National Corp., and we'll just go right down the line, Mr. Monahan, Mr. Stella, and Mr. Watt, and then I'll have some questions after each of you have made your comments.

Mike, you go ahead.

STATEMENT OF MICHAEL MARCHESE, JR., VICE PRESIDENT, GOVERNMENTAL RELATIONS, LINCOLN NATIONAL CORP.

Mr. MARCHESE. Thank you very much, sir. My name's Michael Marchese, Jr. I'm a vice president of Lincoln National Corp. I'm appearing here on behalf of Ian Rolland, who is the chairman and chief executive officer who couldn't be here. He sends his apologies.

Lincoln National Corp. is an insurance holding company with assets exceeding $11 billion and annual revenues of $4 billion. Consolidated Lincoln National Companies write more life insurance than any other publicly held group. Lincoln National subsidiaries have more than $145 billion of life insurance in force. The corporation operates through the national network of more than 19,000 agents and employees and 30,000 brokers.

I appreciate this opportunity to present testimony to your congressional committee. Ian sends regrets that a change in his travel arrangements has precluded his appearance.

Representative HAMILTON. Would you please give him our regards?

Mr. MARCHESE. Yes; thank you.

In the modern higher technology computer-oriented society we live in, there are opportunities for the companies that can find the right climate in which to compete. We in Indiana must start to create that business climate. We really do not have options. We can compete, or we can watch the rest of the world pass us by. That's the choice.

In the industry I represent, the effects of the economic recession were not so disastrous as in the automotive and other manufacturing fields. Still, we found it necessary to adapt quickly to change in order to remain competitive. We discovered this: Many of our tried and true ways of doing business needed to be reexamined and, in many cases, modified or discontinued. We learned the necessity of operating as a lean, streamlined company. That's new for the life insurance business.

And we learned that we must provide products that today's more knowledgeable, more sophisticated consumer demands. We found that in providing that product at the lowest possible cost, we could be more profitable. We were fortunate to recognize the need to change the course in our business while we still had time to do so in an orderly fashion. Still, the lesson of adapting to survive and prosper has been learned thoroughly.

The State has done a good job of pulling itself up by its bootstraps, but it is a long pull. Governmental initiatives can be credited with creating as many as 40,000 new jobs in recent years. Good leadership and a generally responsive general assembly here have overcome the inertia of economic shell shock. An aggressive Indiana State Chamber of Commerce with a coordinated plan for development is backed up by equally aggressive, capable local chambers. Some such as Fort Wayne have demonstrated awesome capabilities to raise money for industry. The ball is rolling, but is is rolling very slowly in Fort Wayne.

Unfortunately, there remains one major obstacle to economic rehabilitation. It has been softened, but it remains formidable. I am speaking of the existing statutory prohibition against cross-county banking. It is an anachronistic affront to Indiana businesses and farmers who need home State capital with which to build or expand.

For what seems like, at least, two decades, the legislative battle has pitted small town legislator against big city legislator in fights based on sincere beliefs on both sides. With our State's largely rural orientation, the outcome of the contest has been predictable each session. Changing demographics are causing closer votes, and now, even the Indiana Bankers' Association, which also has a rural character, is on record as favoring a modified bill to permit cross-county banking.

The real irony of the existing law is that it creates some of the very hardships it is designed to protect against. Local banks, traditionally, have feared the loss of local control. Understandably, they don't want to be taken over by a big city bank, and they don't want to be taking their directions from Indianapolis or Fort Wayne or some other large city. Traditionally, in other States, job losses often have followed buyouts of local banks. The bill that meets the Governor and Lieutenant Governor's criteria this year will have safeguards against too much controlling from bank holding companies. The holding companies would be limited to 15-percent ownership in the total banking deposits of the State. That percentage of ownership would be phased in over a 2-year period.

The Indiana Bankers' Association favors an even more restrictive approach. Its proposal would limit to 10 percent the percentage of ownership in total banking deposits. Most of the larger banks in the State are already at 5½ to 7 percent of ownership of deposits; therefore, a cap of 10 percent provides those banks with an opportunity for limited growth. There's probably a good chance of passage next term of some modification of the cross-county banking bill. We need it, but I would caution against passing a bill that has so many concessions that it is of little or no value.

For example, negotiations for passage might include a provision for such a gradual phasing in of the outside purchases that any advantage to Indiana businesses would be effectively denied. Until the banking problem is solved, Indiana can expect to be economically isolated in many respects.

With inadequate capital resources at the local bank because of its limited depositor and investor base, entrepreneurs are either denied capital or are forced elsewhere to obtain it. All too often, elsewhere means out of the State. When that happens, Indiana usually loses twice. It loses by not having the capital to lend and get interest on, and it loses again when financial institutions outside the State require, as they often do, that a borrower do much of his banking business with the lender.

The money we cannot get, in other words, causes us to have even less available. It's a tragic cycle. It must be broken, and it must be done soon if Indiana is to compete on a level playing field with States where the problem does not exist.

I want to take note that it is not just businesses in the traditional sense that are harmed by the current restraints on banking. Many farmers have capital needs exceeding those of many retailers, small manufacturing businesses. They face the same difficulty in getting the money they need. Often, it becomes necessary for farmers to journey across the State line to do business with a bank that can function on the same high business plane of the modern farm operation. The monkey is clearly on the back of the Indiana General Assembly.

Indiana business can be adversely affected, as we all well know, by the actions of Congress. You, now, have before both chambers, bills that would, among many other things, limit banks' ability to get into the insurance business. Our industry believes that banks should be kept out of the insurance business for a couple of what we think are pretty good reasons. Not the least of these is the potential for improprieties when a bank has the opportunity to demand or subtly suggest that its borrowers and likely borrowers might want to give the bank some of the borrowers' insurance business.

At Lincoln National, we do see the possibility of preliminary, tentative, and cooperative arrangements with banks in order to sell insurance. These can be achieved under current law. We do believe, however, that underwriting of insurance ought to be left to the insurance business itself which knows how to do it.

For Congress, this area is one in which we suggest caution and diligence. The relative instability of the banking industry should make that admonition superfluous. I might also add that the regulation of the insurance business needs some changes, too, and we've had some pretty awesome problems in the solvency of some life insurance companies recently. It would be a shame to mix these two businesses now under the circumstances.

One continuing area of need if we're to compete in Indiana is that of highly motivated, well-educated products of our educational system. If we're to be high tech society, we must have a higher percentage of our young people completing high school and college. I think that the statistics in Indiana are pretty near the bottom in that regard. The three R's no longer are adequate. If all Indiana young people cannot fill the jobs because they're unqualified, the young people from other States will get the opportunity. In this mobile society, qualified candidates will go where the jobs are. It would be great to have them homegrown.

In summary, with respect to the life and health insurance industries, we have two, I think, major problems which involve the U.S. Congress. The first is high and volatile interest rates, which my assumption is result chiefly from the deficit. That's been the major problem of our industry for the last several years. The second big point, I think, that involves the Congress is inflation in health care costs, and you heard about this earlier from those who were paying the bills.

I don't think I need to comment any further except to say that Federal Government has taken a big step to cure the problem of medicare costs by implementing the DRG system, a prospective payment system. We in Indiana, the General Assembly and the Governor, are participating in an effort to deal with the nonmedicare half of the problem. We'd like to try to solve the problem of the other half of that problem here at home and get an all payer system for Indiana if we can. The only thing we will need there is for HICFA to publish regulations under which can get a waiver here so that medicare and private costs are all paid on the same basis.

Thank you very much for letting us testify, Congressman Hamilton.

Representative HAMILTON. Very good. Thank you very much, Mike. The next witness will be Mr. Grant Monahan who's the president of the Indiana Retail Council. Grant, we are glad to have you.

STATEMENT OF GRANT M. MONAHAN, PRESIDENT, INDIANA RETAIL COUNCIL

Mr. **Monahan**. It's good to be here. Thank you for inviting me. As an introduction, let me first briefly describe what the Indiana Retail Council is. We are a statewide trade association. Our offices are located here in Indianapolis. We have approximately 900 retail companies as members of our association, and they represent approximately 3,000 retail outlets across the State.

We represent both large national chains, Indiana-based chains, as well as small independent stores, the mom and pop establishments you find across the State. I think, generally speaking, the current economic conditions in Indiana are good for retailers. Following the recession and the particularly tough year of 1982, Indiana merchants have experienced sales growth through the last half of 1983 and continuing into 1984. Sales gains last Christmas, for example, were up 10 percent over the year before, and while the rate of sales increases has slowed through the first 6 months of this year, the retail outlook remains bright. Indiana retail sales for April 1984 were $2.5 billion, up from $2.1 billion in April of 1983.

I think consumer confidence plays a key role in increased retail strength today. Consumers who delayed all but the most essential purchases are now confident of the future, and they are sparking sales of major purchases such as furniture and appliances.

We've also seen increased competition in the State over the last couple of years. This, in the short term, has been somewhat of a problem for some segments of the industry, most notably, the grocery industry here in Indianapolis, but on the long haul, we believe that competition is a healthy sign. Retailers are ever cognizant of competition, and we are glad to have it here in Indiana.

Since 1979, retailers have been forced to cut their work force in order to meet the strains of the recession. In 1979 and 1980, 22,000 retail jobs were lost; 6,000 additional jobs were lost in 1981 and 5,000 more in 1982. At this point, retailers really learned to live with those lower levels and made no adjustments in 1983, but beginning in 1984 and continuing through the next year, I think you'll see retail employment pick up again by as much as 10,000 to 15,000 new jobs.

It's important to note that retailers play a very vital and important role in Indiana's economy and in job creation. We very often hire the person that no one else wants. Retailers hire the unskilled, the part-time employee, the young employee, the person still in high school or just getting out of high school who has not practical experience in the labor force. Retailers offer that individual a job when no one else will and give him some practical on-the-job training.

Both nationally and in the Great Lakes region, I believe that Indiana offers many competitive advantages to retailers, both in terms of expansion and job creation. Chief among these factors is the State's favorable tax climate.

Indiana's successful unemployment compensation program answers the needs of the unemployed without becoming another welfare program. Indiana's unemployment compensation tax rates are low as compared to other States in the region and can provide a retailer with immediate relief at the bottom line. However, adjustments to Indiana's UC tax rates are necessary and long overdue. The Indiana Retail Council will be working closely with the general assembly in 1985 to redraft the State's unemployment compensation tax rates. We believe that new rates are needed to properly fund the UC benefit fund and, at the same time, apply the tax more fairly among employers.

Indiana's workmen's compensation program also puts retailers in a competitive advantage over our counterparts in neighboring States. Recent restraint on the part of the legislature deserves high praise from the business community in this area.

There are two corporate taxes, however, which must be considered disadvantages to retailers and are in need of modification. They are Indiana's gross receipts tax and the inventory tax. Each of these taxes are based not on a retailer's ability to pay, but are faced by a retailer regardless of his profitability.

The gross receipts tax was instituted as a temporary tax in 1932, and with the Bowen tax package of 1973, began a 21-year phaseout. That phaseout schedule has been, unfortunately, altered and frozen on two occasions. The phaseout and eventual elimination of the gross receipts tax is of high priority to Indiana retailers and is a goal which we urge the Indiana General Assembly to pursue.

Likewise, the inventory tax is based not on a retailer's ability to pay, but on the size of his inventory. This, in my mind, represents a contradiction as inventory should be viewed as one indicator of economic health and growth. This tax, instead, encourages retailers to maintain low inventories and thus stymies a retailer from meeting all of his customer's needs all the time. Again, the Indiana Retail Council urges the general assembly to eliminate or begin a phaseout of the inventory tax.

I think another important advantage to being a retailer in this State, vis-a-vis our neighboring States, is the generally healthy business climate of Indiana. The part-time citizen legislature is responsive to the needs of business as well as consumers. Indiana's General Assembly produces a high quality, responsible package of laws each year in a 3- to 4-month span. Upon adjournment, legislators return to their home districts and live with the laws they passed.

Indiana government from the Governor down to the lowest grade bureaucrat exhibits a degree of reason and common sense often found lacking in government. This is an important factor which adds to the favorable economic climate in Indiana.

In summation, I believe you'll find Indiana to be in good economic health, well on its way back from a serious and costly recession. Indiana retailers look forward with optimism to increased economic growth and a more suitable and even-handed tax structure.

[The prepared statement of Mr. Monahan follows:]

PREPARED STATEMENT OF GRANT M. MONAHAN

My name is Grant Monahan and I am President of the Indiana Retail Council, a statewide trade association representing 900 retail companies with approximately 3,000 stores located in every county of the state.

The Retail Council membership is broad based, ranging from large national chains and Indiana based chains to small independent stores including mom and pop establishments. All types of retailers are represented by the Retail Council including drug and grocery stores, as well as department, variety, discount and jewelry and hardware stores.

I believe that it can be honestly said that the Indiana Retail Council is the singular voice for Indiana retailers.

Generally speaking, current economic conditions are good for Indiana retailers. Following the recession and the particularly tough year of 1982, Indiana merchants have experienced sales growth through the last half of 1983 and continuing into 1984. Sales gains last Christmas, for example, were up 10 percent over the year before and while the rate of sales increases have slowed through the first six months of this year, the retail outlook remains bright. Indiana retail sales for April 1984 were $2.5 billion, up from $2.1 billion in April, 1983.

Consumer confidence and optimisim about the economy must be credited with the stronger retail outlook today. Consumers who delayed all but the most essential of purchases are now confident of the future, sparking sales in major purchases such as furniture and appliances.

Increased credit sales is another manifestation of consumer confidence. Some retail chains report that 45% to 60% of all retail sales in 1984 are made using a credit card.

I think that the future looks good for retailers in Indiana. While increased competition resulting from the introduction of new retailers to Indiana has caused short-term problems for some segments of the industry, we are ever cognicent of the importance of competition as the driving force of retailing.

It should be noted that small retailers face very special and unique problems. Cash flow, inventory control, effective advertising, and yes, location all play a part in the success or failure of small retailers.

While small retailers go in and out of business at an alarming rate, private organizations like the Indiana Retail Council stand ready to assist these merchants with their various concerns.

Since 1979, Indiana retailers have been forced to cut their workforce in order to meet the strains of the recession. In 1979 and 1980, 22,000 retail jobs were lost, 6,000 additional jobs were lost in 1981, and 5,000 more in 1982.

This year will begin the recovery of retail employment. Ten to fifteen thousand jobs will be added to the existing work force in 1984 and 1985.

Indiana's retailers play a unique and vital role in job creation and career development. Retailers provide the first work experience to the unskilled and our state's youth. Hoosier merchants also provide part-time employment which is so often sought by those seeking to supplement family income.

It should be noted that retail employment fills a gap that no other industry fills. Retailing's continuing ability to provide jobs to unskilled individuals who are entering the work force for the first time puts retailing in a valuable position in Indiana's job development.

Both nationally and in the Great Lakes region, Indiana offers many competitive advantages for retailers, both in terms of expansion and job creation. Chief among these factors is the state's favorable tax climate.

Indiana's successful unemployment compensation program answers the needs of the unemployed without becoming another welfare program. Indiana's unemployment compensation tax rates are low as compared to other states in the region and can provide a retailer with immediate relief at the bottom line. However, adjustments to Indiana's UC tax rates are necessary and overdue. The Indiana Retail Council will be working closely with the General Assembly in 1985 to redraft the state's UC tax rates. We believe that new rates are needed to properly fund the UC benefit fund. At the same time, revised tax rate schedules will more fairly apply the tax to those employers whose industry is draining the fund.

Indiana's workmen's compensation program also puts retailers in a competitive advantage over our counterparts in neighboring states. Reasoned restraint on the part of the legislature deserves high praise from the business community in this area.

There are two corporate taxes however, which must be considered disadvantages to retailers and are in need of modification. They are Indiana's gross receipts tax and the inventory tax. Each of these taxes are based not on a retailer's ability to pay, but are faced by a retailer regardless of the profitability of his enterprise.

The gross receipts tax was instituted as a "temporary tax" in 1932 and with the Bowen tax package of 1973 began a 20 year phase-out. That phase-out schedule has been unfortunately altered and frozen on two occasions. The phase-out and eventual elimination of the gross receipts tax is of high priority to Indiana retailers and is a goal in which we urge the Indiana General Assembly to pursue.

Similarly, the inventory tax is based not on a retailer's ability to pay but, on the size of his inventory. This, in my mind, represents a contradiction as inventory should be viewed as one indicator of economic health and growth. This tax instead encourages retailers to maintain low inventories and thus stymies a retailer from meeting all of his customers needs all the time. Again, the Indiana Retail Council urges the General Assembly to eliminate or begin a phase-out of the inventory tax.

Another important advantage to being a retailer in Indiana is the healthy business climate in the state. The part-time, citizen legislature is responsive to the needs of business as well as consumers. Indiana's General Assembly produces a high quality, responsible package of laws each year in a 3-4 month time span. Following session, the legislators return to their home districts and live with the laws they passed.

Indiana government, from the Governor down to the lowest grade bureaucrat exhibits a degree of reason and common sense often found lacking in government. This is an important factor which adds to the favorable economic climate in Indiana.

In summation, I believe that you will find Indiana to be in good economic health, well on its way back from a serious and costly recession. Indiana retailers look forward with optimisim to increased economic growth and a more suitable and even handed tax structure.

Representative HAMILTON. Thank you very much, Mr. Monahan. The next witness will be Ken Stella, president, Indiana Hospital Association. We're glad to have you here and look forward to your comments.

STATEMENT OF KENNETH G. STELLA, PRESIDENT, INDIANA HOSPITAL ASSOCIATION

Mr. STELLA. Thank you very much, Mr. Chairman. There are 114 general, acute care hospitals in Indiana. Overall growth in the number of beds in Indiana hospitals has been slow during the past few years. Annual growth has ranged from 0.3 percent in 1982 to 1.1 percent in 1980. We now have 24,307 beds in the State. Most hospital construction has focused on renovating outdated facilities, expanding availability of services, integrating new technology, and improving services already offered.

The quality of care given is important to Indiana hospitals. Of the total beds in the State, 97 percent have been accredited by the joint commission on accreditation of hospitals. In addition, residency programs at 22 hospitals are accredited by the council for graduate medical education, and five hospital-sponsored nursing programs are approved by the National League for Nursing.

As we look at hospital finances, Indiana hospitals, in 1982, spent about $2.2 billion in expenses. Of this amount, 56 percent went to pay employee salaries and fringe benefits.

Indiana hospitals provide jobs for local communities and generate revenue through the purchase of supplies and services, but hospitals are more than just a source of revenue for Indiana communities. They also provide a great deal in financial support and assets.

In addition, regarding physical aspects such as facilities, ground, and equipment, Indiana hospitals reported unrestricted assets totaling almost $900 million in 1982. Of that amount, about $200 million was funneled into short- and long-term investments.

As employers, Indiana hospitals provide nearly 80,000 full-time equivalent personnel in 1982. Almost 4 percent of the State's employees—nonagricultural workers—were employed by hospitals. A total of $1.3 billion in wages and benefits was paid to Indiana hospital personnel, money which is spent and invested in Indiana communities.

In addition, 106 health care/medical supply companies rely on hospital purchases from Indiana and out-of-State hospitals as sources of revenues. The U.S. Department of Labor's Bureau of Labor Statistics reported that, nationally, for every 92 hospital beds, there are 23 nonhospital jobs created in a community. That means an additional 20,000 people are employed in Indiana because of hospitals in the State.

In many Indiana communities, hospitals are among the largest employers. For example, in Indianapolis alone, almost 19,000 people are employed by hospitals.

Although they are collectively one of the largest high-technology employers in the State, Indiana hospitals provide jobs for all grades of workers, skilled, semiskilled, and unskilled.

The number of openings for positions with a traditionally high number of vacancies has dropped, according to IHA manpower studies. A total of 11 percent vacancies was reported for registered nurse positions in January 1980, compared to 3.7 percent in January 1984.

Take a look at construction in the health care field. Changes in health care delivery means hospitals must respond to new needs. For example, outpatient visits alone in Indiana increased by more than 20 percent between 1981 and 1982.

Many of our hospitals have focused on facilitating such developments as outpatient surgery and preadmission testing in anticipation of these changes.

For example, approximately $255 million was spent in the State last year for modernization and renovation of hospitals compared to only $30 million for expansions.

A newly created hospital equipment financing authority in Indiana is enabling hospitals to continue that trend. Nonprofit and county hospitals are now able to borrow new money at a cost below the prime interest rate through special bond issues.

The bonding authority is the result of legislation passed in 1984 and supported by Indiana hospitals. There are only 15 other such authorities in the country, and the first bond issue is expected to be available this fall.

Concerns of the public deal primarily with the delivery of high-quality health care at an affordable price. There literally is more technology available than we can afford. Quality, however, has always been and remains a priority of the public.

A recent IHA public opinion survey showed that although consumers are concerned about the cost of health care, very few list cost as the deciding factor in choosing a hospital. The recommendation of the physician and the quality and reputation of the hospital are the reasons most often listed.

In addition to realizing the needs to meet consumer demands, Indiana hospitals are concerned about other issues: prospective payments, increasing competiton, sweeping changes in health care delivery, an aging population, and health care for the indigent.

You've asked me to outline the situation faced by Indiana hospitals and relate it to the State's economy and growth during the coming years. I hope I have given you an overall picture of the state of the Indiana hospital industry, including the concerns of our health care providers.

Representatives of the association and our member hospitals have been active in several areas that involve planning for the future of Indiana. That cooperation extends throughout the State as we work for a prosperous future.

The focus, now, is to stay on top of consumer attitudes which show tremendous support for alternative delivery methods but which shun the continued development of new technology. Health care is considered a right, and Hoosiers want the best care available. Thank you.

[The prepared statement of Mr. Stella follows:]

PREPARED STATEMENT OF KENNETH G. STELLA

The Indiana Hospital Association is a non-profit organization consisting of 130 member health care institutions and other health-related individuals and organizations.

The Association has been invited to discuss Indiana's hospital industry as it relates to the economic growth of the state. The IHA and its members believe Indiana hospitals are a crucial link in the state's economic chain.

High quality, affordable health care is vital to any state that wants to prosper. Indiana's hospitals recognize the importance of their role in the state's growth and are proud of their contribution to the state's economy.

The following briefly covers some of the key issues concerning the role of Indiana hospitals, not only as supporters of efforts toward economic growth in the state, but also as employers for thousands of Hoosiers.

INDIANA'S HOSPITALS

First, let's briefly review general background information about Indiana's hospitals.

There are 114 general, acute care hospitals in Indiana:

* 58 non-profit hospitals
* 53 state or locally owned hospitals
* 3 proprietary hospitals

Of those hospitals, most are medium size:

- 6 hospitals have 50 or fewer beds
- 38 hospitals have 50-99 beds
- 32 hospitals have 100-199 beds
- 19 hospitals have 200-399 beds
- 20 hospitals have 400 or more beds

Overall growth in the number of beds in Indiana hospitals has been slow during the past few years. Annual growth has ranged from .3 percent in 1982 to 1.1 percent in 1980. We now have 24,307 beds in the state. Most hospital construction has focused on renovating outdated facilities, expanding availability of services, integrating new technology, and improving services already offered.

The quality of care given is important to Indiana hospitals. Of the total beds in the state, 23,476 -- or 97 percent -- have been accredited by the Joint Commission on Accreditation of Hospitals. In addition, residency programs at 22 hospitals are accredited by the Council for Graduate Medical Education, and five hospital-sponsored nursing programs are approved by the National League for Nursing.

HOSPITAL FINANCES

Indiana hospitals in 1982 spent about $2.2 billion in expenses. Of this amount, 56 percent went to pay employee salaries and fringe benefits.

A survey of a select number of Indiana providers shows the average breakdown of expenses for hospitals:

- 48.6 percent, employee wages
- 8.2 percent, employee benefits

- 16.7 percent, supplies
- 9.5 percent, miscellaneous expenses
- 5.7 percent, purchased services
- 5.0 percent, depreciation
- 4.1 percent, physician services
- 2.1 percent, interest

Another survey shows the average breakdown of revenue sources for Indiana hospitals:

- 40 percent, Medicare
- 4 percent, Medicaid
- 47 percent, insurance
- 9 percent, self payers

Indiana hospitals provide jobs for local communities and generate revenue through the purchase of supplies and services. But hospitals are more than just a source of revenue for Indiana communities. They also provide a great deal in financial support and assets.

In addition to physical assets such as facilities, grounds and equipment, Indiana hospitals reported unrestricted assets totaling almost $900 million in 1982. Of that amount, about $200 million was funneled into short and long term investments.

Hospitals, unlike other businesses, operate under a high margin of net receivables, or slow cash flow. Indiana hospitals in 1982 reported that almost half their total unrestricted assets, or about $400 million, was tied up in net receivables such as charity care, bad debts and payments from programs such as Medicare, Health Care for the Indigent and Medicaid.

HOSPITALS AS EMPLOYERS

Indiana hospitals employed nearly 80,000 full-time equivalent personnel in 1982 -- almost 4 percent of the state's employed non-agricultural workers. A total of $1.3 billion in wages and benefits was paid to Indiana hospital personnel, money spent and invested in Indiana communities.

In addition, 106 health care/medical supply companies rely on hospital purchases from Indiana and out-of-state hospitals as sources of revenues. The U.S. Department of Labor's Bureau of Labor Statistics reports that nationally, for every 92 hospital jobs, there are 23 non-hospital jobs created in a community. That means an additional 20,000 people are employed in Indiana because of hospitals in the state.

In many Indiana communities, hospitals are among the largest employers. For example, in Indianapolis alone almost 19,000 people are employed by hospitals.

Although they are collectively one of the largest high technology employers in the state, Indiana hospitals provide jobs for all grades of workers -- skilled, semi-skilled and unskilled.

The new Medicare payment system and changes in technology and physician practice patterns have affected hospital employment needs in Indiana and the nation. Lower census figures have created employee layoffs and wage and salary cutbacks, as well as hiring freezes.

The number of openings for positions with a traditionally high number of vacancies has dropped, according to IHA manpower studies. A total of

11 percent vacancies was reported for registered nurse positions in January 1980, compared to 3.7 percent in January 1984. Some fields, such as physical therapy, still have a high number of vacancies despite some decline. There were 15 percent vacancies for physical therapists in 1980 and 11.7 percent in 1984.

Having promoted the benefits of preadmission testing and outpatient surgery and treatment for years, Indiana hospitals have seen the trend explode, resulting in a more cost efficient delivery of health care that utilizes outpatient services on an increasing scale.

CONSTRUCTION

Changes in health care delivery mean hospitals must respond to new needs. For example, outpatient visits alone in Indiana increased by more than 20 percent between 1981 and 1982, adding to a demand in that area.

Many of our hospitals have focused on facilitating such developments as outpatient surgery and preadmission testing in anticipation of these changes.

For example, approximately $255 million was spent in the state last year for modernization and renovation of hospitals, compared to only $30 million for expansions.

Both modernization and construction provided countless jobs for other individuals in the state.

Indiana's hospitals are growing in the scope of services they offer, spending their efforts to meet consumer needs for faster, more convenient care at a lower cost.

Modern Indiana hospitals recognize they are in the health care business and not the hospital business.

TECHNOLOGY

A rapid growth in technology is one of the primary reasons for radical changes in health care delivery today. Changes in physician practice patterns and consumer demands are a result of improved methods of delivering health care.

Indiana, nationally known for heart transplants and research in a variety of speciality areas, has a strong reputation as a leader in use of current health care technology.

Currently, 47 facilities offer CT scanner capabilities, many through shared service programs that enable high technology to be brought to communities at a lower cost.

A total of 30 hospitals in the state have available therapeutic radioisotopes, and 26 have available X-ray radiation therapy. Cardiac catheterization is available at 21 hospitals, and open heart surgery is performed by 9 hospitals.

Indiana hospitals have been able to provide the best of medical care while keeping their costs below the national average with careful planning.

A newly created Hospital Equipment Financing Authority in Indiana is enabling hospitals to continue that trend. Non-profit and county hospitals are now able to borrow money at a cost below the prime interest rate through special bond issues.

Hospitals will be able to save thousands of dollars on interest due to the lower borrowing rates.

The bonding authority is the result of legislation passed in 1984 and supported by Indiana hospitals. There are only 15 other such authorities in the country. The first bond is expected to be available this fall.

PUBLIC CONCERNS

Delivering high quality health care at an affordable price is central in the health care dilemma. There literally is more technology available than we can afford. Quality, however, has always been and remains a priority of the public.

A recent IHA public opinion survey showed that although consumers are concerned about the cost of health care, very few list cost as a deciding factor in choosing a hospital. The recommendation of a physician and quality of care are the reasons most often listed.

Everyone has a right to health care, according to survey respondents. In all, 85 percent of those surveyed said hospital services were as accessible as they should be.

The public, however, endorsed such concepts as preadmission testing and outpatient surgery, with almost 90 percent saying they could consider using those services rather than traditional inpatient facilities.

Clearly, consumers are caught up in the health care dilemma. The question is whether the desire for convenient, quality care will outweigh the concerns about health care costs.

HOSPITAL CONCERNS

In addition to realizing the need to meet consumer demands, Indiana hospitals also are concerned about other issues: prospective payment, increasing competition, sweeping changes in health care delivery, an aging population and health care for the indigent.

Although Indiana's hospitals are lower in cost than the national average and other states in the region, there has been some discussion about regulating rates in Indiana. Indiana's adjusted cost per inpatient day in 1982 was $287, compared to $334 for the region and $327 for the nation.

An interest in regulation has existed despite a tremendous record by the nationally recognized Indiana Hospital Rate Review Committee, a private rate setting program instituted in 1960, and public opinion shows most Indiana citizens oppose more government regulation.

Already, Indiana hospitals have slowed their rate of increases without sacrificing quality. Increases averaged 9.5 percent in January 1983, compared to 11.8 percent in 1982 and 13 percent in 1981. The first four months of 1984 showed an even slower growth, averaging only 6.4 percent.

Hospitals are concerned about the impact of prospective pricing combined with this downward trend. Any state prospective rate setting initiative while we await the results from the new federal Medicare system would be premature. All Indiana hospitals have just begun to experience the results of prospective pricing by DRGs. It has its problems to be dealt with before experimenting with another radical change. Let us assure equity between urban and rural hospital classifications as well as assure that DRG prices represent costs of quality medical services before changing for the sake of change alone. We need empirical data and experience to take the next step.

It's interesting to note that Indiana's hospitals have been concerned about the potential addition to the shifting of costs to private payers under prospective payment. To alleviate that concern to the extent possible, Indiana hospitals are taking any profits under the new prospective payment system and funneling them back into operating budgets to help offset cost shift and potential rate increases.

In addition, the Indiana Hospital Rate Review Committee has determined that any hospital losing money under federal prospective payment will only receive a credit of 50 percent to cover such lost revenue through its requested rate increase. The hospitals will be required to devise a plan to eliminate such shortfalls.

This isn't the first time hospitals here have responded to potential Medicare shortfalls. Since the 1970s, the IHA and its member hospitals have filed numerous administrative and legal appeals concerning Medicare reimbursement, many of which have been successful.

In addition, the state is faced with an aging population. Although the 65 and older age group comprises less than 13 percent of the state's population, our older adults utilize about 28 percent of the hospital patient days.

If rate of increase in the number of older adults continues as predicted, the 65 and older group will grow to 20 percent of the population by the year 2020. Already, the average life expectancy in the United States is 74.6 years for those born in 1983, about six and one-half years longer than experts had calculated for babies born in 1949-51.

Another factor that concerns Indiana hospitals is the increasing cost of indigent health care. The funding of the care for indigents under the Hospital Care for the Indigent program falls upon the counties and hospitals in Indiana. There is currently no state or federal tax dollars supporting the program. Further, hospitals already provide millions of additional dollars in charity care. With increased demand for public services, increasing inflation, and limited tax resources to local governments in Indiana, the problem worsens.

Payment to hospitals for indigent care is slow, at less than cost, and often even non-existent due to limited county budgets. If federal Medicaid cuts continue it would have a particularly harsh effect on Indiana as we seek a state solution to our indigent health care funding problem.

PLANS FOR THE FUTURE

You've asked me to outline the situation faced by Indiana hospitals and to relate it to the state's economy and its growth during the coming years.

I hope I have given you an overall picture of the state of the Indiana hospital industry, including the concerns of our health care providers.

Representatives of the association and our member hospitals have been active in several areas that involve planning for the future of Indiana. That cooperation extends throughout the state as we work for a prosperous future.

Just as important as the state efforts is the cooperation occurring at the local level. Concerned about the rising cost of health care and the tremendous burden being placed on employers in Indiana, the state's hospitals have been active in the development of area business/health coalitions.

It's estimated that more than 30 of these groups are meeting across the state to develop ideas on lowering health care costs for employers. Many employers have changed their benefits coverage for salaried workers, introduced deductibles and copayments to create a more personal responsibility for utilization of health care. All these things impact on health care providers, creating lower lengths of stay and fewer inpatient admissions. There have been increased demands in other areas such as outpatient treatment.

The results are exciting. Most communities are seeing full cooperation between business and health care providers. We hope to see increased efforts to open the lines of communications between these two groups. Hospitals, after all, are employers too.

As pressures increase and hospitals see more competition among themselves and from alternative delivery systems, we'll see even greater changes in the marketplace.

The focus now is to stay on top of consumer attitudes, which show tremendous support for alternative delivery methods but which shun the continued development of new technology. Health care is considered a right, and Hoosiers want the best health care available.

It's the dichotomy of health care. How are we going to handle the growth of health care through controlled expansion without impacting on a job market that's vital to the state.

Indiana has a tradition of cautious planning and cost containment, making the future of health care here a bright one. Despite cloudy skies on the horizon, we feel competent to face the future effectively and to help Indiana prosper as a state that's in touch with the times and on top of the issues.

Thank you for this opportunity to discuss the health care industry in Indiana. Attached are a few supporting charts and figures. If you should need additional information, please let me know.

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INDIANA HOSPITAL SATISTICS*

Beds	24,307
Admissions	885,888
Inpatient Days	6,937,168
Adjusted Patient Days	7,997,524
Occupancy Rate	78.1 percent
Average Length of Stay	7.8 days
Average Daily Census	18,982
Outpatient/Emergency Room Visits	6,291,801
Births	81,219
Employees	79,639 FTEs
Residents, Interns & Trainees	1,199 FTEs
Labor Expenses (Including Fringes)	$1,294,495,000
Total Expenses	2,296,059,000

* 1982 data from the American Hospital Association.

ADJUSTED EXPENSE PER INPATIENT DAY

Indiana	$287.00
Region	$334.00
United States	$327.00

ADJUSTED EXPENSE PER ADMISSION

Indiana	$2,242.00
Region	$2,673.00
United States	$2,501.00

Representative HAMILTON. Thank you, Ken. The final witness on this panel is Mr. William Watt, president of Watt Associates, and chairman of the Indiana Transportation Coordinating Board. Bill, we're happy to have you with us.

STATEMENT OF WILLIAM WATT, PRESIDENT, WATT ASSOCIATES, AND CHAIRMAN, INDIANA TRANSPORTATION COORDINATING BOARD

Mr. WATT. Thank you, Congressman.

For the past 15 years or so, it has been commonplace to discuss transportation in crisis terms. Whether we were talking about railroad bankruptcies or declining public transit, the turbulence associated with airline deregulation, the effect of the economic recession upon the trucking industry, or more most recently, the clamor for the renewal of the Nation's transportation and utility capital structure, the public tone often has been one of pessimism, and that has related to most modes of transportation that we would be interested in here today. Indeed, some of these crises were real ones, but others were not so much troubles of transportation as they were the consequences of economic recession coupled with readjusting to a new world energy pricing structure. While a number of problems remain on the agenda and we do face challenges in most modes, I'm more optimistic about prospects for transportation both in Indiana and the Nation than I've felt for the past 10 years or so.

The quality of commercial airline service is returning to its prerecession levels and in a number of markets is already surpassing it. Freight railroads have been on the rebound since the mid-1970's and have a far stronger hold at this time than since the 1957–58 recession.

Public transportation ridership is beginning to increase in a number of markets, and most systems are becoming more efficiently operated with Federal help. Indiana and most other States now are poised to begin reducing the accumulated deferred maintenance that has threatened the usefulness of our highway and bridge systems. There are other positive signs, and I don't want to demean the challenges which still confront us, but I think they are manageable ones if we approach them in an orderly and intelligent way.

There has been a good deal of concern about whether or not we can achieve a sufficient level of capital investment in our transportation systems to provide for future needs. To put it in perspective, we can go back to the Roman Empire and detect a fairly consistent trend that has prevailed since then, and that is, the true priority needs of transportation will attract attention. They will attract action because they are so fundamental to an industrialized economic system.

Certainly we have problems today both in the timing and availability of dollars for public projects such as restoring highways and bridges, and interest rates are a problem for the common carrier and private sector transportation interests because their rates of return do not equal the interest costs they're having to pay. In general, the trend will hold true that the real needs will find a way to be met with government's help, in some cases; without it in others.

The committee has asked for forecasts about future transportation employment in Indiana, and it's fairly certain that new developments in replenishing the capital structure of the roadways, will provide additional job opportunities in the construction industry. The extent of that employment will relate largely to the timing on which we carry out this process.

But we're also seeing a significant surge in new transportation employment in the airline industry, with Indianapolis being the prime example. When it comes to surface freight operations and transportation, however, current employment levels are much lower than their historic norms, and I don't think it's likely that they ever will return to those levels. That's true on the national level as well as Indiana.

Transportation has always been labor intensive, but our systems have found that they cannot afford to be as labor intensive as they were at the wage rates which prevailed before the recession. This is especially true in the railroad industry where we've seen a continuing shift away from general merchandise handling, which is more labor intensive, to the unit-trained movement of bulk commodities.

The main theme in transportation both here and throughout the Nation during the coming years, will be the evolution of truly integrated transportation systems bringing together highway, rail, barge, and air services under the umbrella of unified corporations. The current proceeding before the Interstate Commerce Commission involving the CSX Corp. acquisition of American Commercial Lines probably will trigger a number of other consolidations if it's approved.

In time, I think this will position America's transportation industry to be more efficient and to compete in a global economy. The integrated transportation company is both inevitable and desirable.

I would offer a few comments on specific trends in Indiana.

With respect to aviation: Indiana is gaining ground. The Purolator decision to locate its hub in Indianapolis is the most significant aviation development to take place in this State for many years. Fort Wayne is fast gaining additional services, and I think we'll see improvements at the other trunk carrier airports as well. The deregulation which stimulated the growth of commuter carriers now opens up the possibility that scheduled airline service can be expanded to as many as another 5 or 10 Indiana cities of medium size.

In railroads, the disposition of Conrail will tend to overshadow other developments, and we're a few weeks away from having the State's analysis of the bids complete and being able to make a formal recommendation to the administration and Congress with respect to where Indiana's interests are best served. We can expect some additional branch line and secondary main line abandonments irrespective of the Conrail situation, but they will be on a much smaller scale than those experienced in the 1960's and 1970's.

While ridership and financial statistics of urban public transit systems generally are improving, the future of public transit hinges on policy decisions of local governments in cities involved. It's not reasonable to expect a surge in transit ridership or financial performance as long as the focus in our cities is upon investments which continue to have the effect of subsidizing the automobile. We've now reached a point in our larger urban areas where investments in public transit make more sense than continuing a losing battle against pollution, urban congestion, expensive construction, and relocation costs and the like, and as these economic realities strike home, transit's appeal will increase.

With the infusion of additional State and Federal funding, I think we'll soon be at the point of putting our State highway system on a cycle of maintenance that will prevent further deterioration and begin to reduce the backlog of resurfacing and bridge replacement.

To me, the challenge is how we can accelerate that progress because a normalized maintenance program will not replace bridges on a time schedule that will allow us to preserve the operating integrity of the system, and roughly 40 percent of the bridges on the State highway system have structural deficiencies or are functionally obsolete. With actions taken at both the Federal and State levels in the past couple of years, we have improved our position. For example, this year and next year we will be resurfacing our heavily traveled interstate routes at a rate higher than a normal maintenance program. This will enable us to begin wiping out that backlog.

The next session of the legislature will face some very significant long-term funding decisions on the future of our highway system, and if the pattern that began in 1984 is any indication, funding at the State level will be provided to begin to retire some of the accumulated deferred maintenance; however, I think we all must realize that given the situation with deferred maintenance, that we're all going to have to set our sights lower on new construction. It is inconceivable to me that the backlog of new project requests that are sitting in the files of our State and local highway departments can be met, and I'm not certain that it's necessary that all of them be met. It's time to begin looking at our transportation systems in, perhaps, a different way than we have in the past.

While it's tied to the highway issue, the trucking industry is a special case. It's undergoing a very difficult transition. For too many years, we've had too many trucks chasing too little traffic. The traffic is coming back. Loadings are up this year. The trucking industry has had a difficult time accepting the notion of deregulation which, again, is inevitable, and its reluctance to accept that transition is probably making the change somewhat more difficult. There are very direct parallels, both in mobility and in capital investment, between the trucking industry and the commercial airline industry, and we have seen, I believe, that the policy of deregulating commercial airlines was a prudent one. That completes my comments.

Representative **Hamilton**. Thank you very much, Bill. Thank you all.

I understand that the service sector of the Indiana economy provides more than half of all employment in this State. You gentlemen, of course, as I'm sure you've noticed, represent very important segments of the service sector in the Indiana economy: retailing, insurance, finance, health, and transportation.

The growth of service industries in Indiana has been slower than the growth of service industries in the country as a whole, and part of the reason for that, I suppose, is linked to what our previous panel said to us about what's happening in manufacturing. My first question to address to each of you is, What kind of growth do you see in jobs in your service sector? If you can, kind of speculate on that for me for the next few years. Everybody tells us that the service industries are where we're going to have the growth in the economy in terms of jobs in the next few years. What do you gentlemen see with regard to growth in your particular sectors? Anybody want to start? Mike, you go ahead.

Mr. MARCHESE. In our industry, there is not a growth of jobs.

Representative HAMILTON. Now, you're talking about insurance?

Mr. MARCHESE. Yes; life and health insurance and pensions. We have been forced to become far more productive than we ever were before, and one of the things that happens is that you hire fewer people, and we are doing twice as much business now, I think, as we did 5 years ago. Five years ago, we employed 3,500 people in Fort Wayne. We now employ somewhat less than 3,000.

Now, I don't know what that means for the computer business which is what the people are being replaced with, to some extent. I don't know that I see any booming increase in the number of employees in the insurance business——

Representative HAMILTON. That's true.

Mr. MARCHESE [continuing]. From our perspective.

Representative HAMILTON. You're talking, now, about not just Lincoln Life but about the insurance industry generally in the State, citing your own example?

Mr. MARCHESE. Yes; if the rest of them are going to survive, I think they're going to have to do the same thing.

Representative HAMILTON. Grant?

Mr. MONAHAN. In 1982, 352,000 jobs were in retailing which represented about 17.5 percent of the total nonagricultural employment. As I said in my comments, I think that you'll see employment pick up both this year and next, but beyond that, I don't feel that you'll see a lot of additional retail employment growth, primarily because retailing is a very labor intensive industry, and I think the lessons learned in the last recession are that we can get by on fewer employees. In a labor intensive industry, that's where all our costs are, and retailers need to trim those costs as much as they can if they are going to stay in business and stay competitive. I think those lessons have taught retailers that they don't need as many employees as they probably thought they did in the past, so while employment will pick up somewhat, I don't think you'll see a really large increase over the next few years.

Representative HAMILTON. Your statement has some rather startling figures to me: In 1979 and 1980, 22,000 jobs lost in retail; 6,000 jobs lost in 1981; 5,000 more in 1982. Those are very sharp reductions, and I don't think they follow the national pattern where, in the retailing sector, growth and employment have slowed but did not show that kind of a drop.

Now, you do say that you expect some jobs to come back in 1984 and 1985, but will they come back to what they were, do you think?

Mr. **Monahan**. I honestly don't know whether they will pass 1985 or not. The indications I have for 1984 are 10,000 to 15,000 but whether we get back to those old levels, I, frankly, do not know.

Representative **Hamilton**. The indications are that you'll have an increase in jobs of what, 15,000 did you say?

Mr. **Monahan**. 10,000 to 15,000.

Representative **Hamilton**. 10,000 to 15,000 during 1984 and 1985?

Mr. **Monahan**. Yes.

Representative **Hamilton**. And that's assuming pretty healthy growth in the economy? We've got healthy growth now.

Mr. **Monahan**. We do have healthy growth now. I think retailers are anticipating a good 1984, a very strong Christmas to complete this year, and I think we're looking forward to a strong 1985, as well. You know, things are so volatile today that I think retailers are reluctant to look much farther down the road than that.

Representative **Hamilton**. Ken?

Mr. **Stella**. Well, in the health care industry, certainly in my remarks, I pointed out that we have seen a drop since 1980 with regard to the number of positions available for openings in the health care segment. I believe that as the gentleman from Fort Wayne indicated, hospitals certainly are undergoing an attempt to create more productivity, thus leading to a decrease in the number of jobs available and the number employed in the health care segment.

An unknown factor, I suppose, in Indiana will be the aging population. Certainly here in Indiana, we're aging, and certainly the indications are that there will continually be a need for additional health care facilities to take care of that aging population. So we may see somewhat of a leveling off of employment, because of productivity along with some additional facilities that take care of the aging population.

Representative **Hamilton**. If you look back over the last decade or so, you had very strong growth in the health care industry.

Mr. **Stella**. We've had very strong growth, high employment. We're seeing a leveling off and actually a decrease in the numbers employed from prior years.

Representative **Hamilton**. I'm struck by the fact that down my way in some of these smaller communities, the largest employer in the county is oftentimes the hospital.

Mr. **Stella**. Absolutely. I just left a community hospital, and we were the third largest employer in that county. This is certainly indicative of Indiana, probably to the degree of it would not surprise me that in potentially 50 counties in the State, the hospital is probably the third largest, or among the top three employers in the area.

Representative **Hamilton**. Bill, what do you see in transportation?

Mr. **Watt**. In the short term, the greatest growth will not be directly in transportation but in the construction industry which will be serving the revitalization of some of these capital facilities. To give you an illustration of the situation, when Conrail was created, the employment levels of its bankrupt predecessors were in excess of 100,000 systemwide. The new management is now moving more freight with a work force in the 45,000 to 48,000 range, so given that diminishment of employment, it's difficult to foresee, even with massive rehirings, that we could ever see the historic employment in the industry. Where we'll see growth, I think, is in aviation, perhaps in the thousands. We're seeing processes now in Indianapolis that have to lead to—with a combination of Purolator, American Trans Air, and other developments—perhaps 1,000 employees in this market alone.

If we get into the integrated transportation companies, I think you'll see terminal employment increase here because we are a national breaking point for rail to barge movements and truck to rail and truck to barge. The existing transportation distribution system will be enhanced by those interconnections.

Representative HAMILTON. How many jobs are we going to get on Purolator?

Mr. WATT. My recollection is, a combination of full and part-time, the potential is about 700. Other things are unknown. The jury's still out on whether we'll have high speed rail or whether we'll have such a project in the Midwest. If there were to be such a project undertaken, that would be very labor intensive.

Representative HAMILTON. Now, let me ask you about the pay level in these jobs. One of the things we often hear is that in the service industries, the pay level is less than in the manufacturing industries, and therefore, the standard of living drops for the family if people move to service jobs. What's your comment about that? How would you describe the kinds of jobs that you're talking about in terms of pay level in these various sectors? We don't always want to pick on you first, Mike. Let's start with Grant, and then we'll move that way and come back to you.

Mr. MONAHAN. Well, as you know, retailing has had the reputation of being on the lower end of the pay scale, and I don't see that changing over the next several years. By the nature of the business, the bulk of our employees are part-time people, or they're unskilled or semi-skilled, and this is their first experience in the workplace, so subsequently, the salaries are lower than what you find in manufacturing.

There is, obviously, a segment of retailing which is often overlooked by the public, and that is the executive and the buyer and the advertising people in a retail store, and those salaries are, I think, very competitive and certainly are very adequate and high, but I think for the most part, for the industry as a whole, we're going to see, basically, the same kinds of pay levels as we've seen in the past.

Representative HAMILTON. Ken.

Mr. STELLA. In the health care field, obviously, we run the total scale in terms of salaries paid. I think the observation I would make, probably, in general about the health care field is that we employ a higher percentage of second wage earners, obviously, because of the large amount of female population employed by our hospitals. Many of those in the professional as well as the semi-skilled and unskilled levels are second wage earners.

I would say that for the most part, however, the health care industry over the past few years has had dramatic increases in its labor costs, and certainly that has been one factor toward the escalation in health care costs. We have suddenly become much more competitive with other industries that are going after the same employees that health care has sought. In general, though, we're seeing a leveling off in terms of the wages paid. We'll continue to be very oriented toward the second wage earner.

Representative HAMILTON. You know, I've heard frequently that Indiana's advantage in health care would suggest that we will have unusually strong growth in health care employment. We have outstanding medical facilities in this city and other cities in the State. We've got a production base in medical instruments. It is a little disconcerting to me, I guess, to hear you say that you really don't think the health care industry will be employing more people in the future. Before I came in here today, if someone had asked me where was the growth going to be in jobs in our State, I think I'd have put health care, maybe, at the top of the list. But you're telling me that that's not right.

Mr. STELLA. Well, Mr. Chairman, I don't believe that that necessarily will occur in Indiana because I think Indiana hospitals are too committed, at this particular point in time, to really attempting to increase their productivity, to make sure that the technology introduced within the hospitals will not necessarily lead to greater employment. Again, I would qualify that and hedge my bet on the aging population and the necessity of the unknown ticking time bomb there in terms of what kinds of health care demands that group is going to have.

Representative HAMILTON. Bill, we're talking about pay levels, now, in transportation. What are they like?

Mr. WATT. Well, historically, by comparison to other elements of the service industry, transportation has been highly paid, and that's particularly true in rail, truck, and aviation. The solution, thus far, has not been for the surface transportation industry to undertake drastic pay cuts. It's been to operate with fewer people at roughly the same wage levels. Certainly the new companies and the new growth in aviation is coming in at a lower wage scale than had existed previously. The jury's still out on the trucking industry because we don't know precisely how further deregulation will take place, and whether the growth in the trucking industry will be in private carriage operated by corporate America or whether it will continue in the hands of our existing common carriers will determine whether those wages are to maintain their current premiums or whether they would be degraded as a result.

Representative HAMILTON. Ken, I want to talk with you a little bit about what the previous witnesses said on health care costs. Were you in the room at the time?

Mr. STELLA. Yes, I was.

Representative HAMILTON. You heard them say—several of the representatives of the manufacturing firms, that their health care costs are running above average here, not, I think, because of basic hospital care costs, but because of the length of stay and sometimes more expensive mix of service and so forth. I'd be interested in your reaction to that.

Mr. STELLA. OK. I think that, again, I was glad to hear them qualify their comments somewhat with regard to the hospital portion of that. The major thing that I think we have to recognize is the industry that they come from. In 1949, I believe they negotiated their first health care benefit package, and ever since that time, most of the negotiations have led to increased health care benefits being provided to that employee group.

That, likewise, has pretty much carried over into other manufacturing in the State of Indiana, and there's been a lot of catchup being played by other manufacturers trying to duplicate the health care benefit packages that are negotiated. What we really find in Indiana, however, is that when we compare ourself to this region, and included in this region are such States as Illinois, Michigan, Ohio, and Wisconsin, we really find that Indiana is well below the States of Michigan, Illinois, and Ohio, and that Wisconsin and Indiana usually parallel themselves, one year Wisconsin a little less; the next year Indiana is a little less, but certainly with regard to the other three States, Indiana is a very healthy State in terms of its overall health care costs.

Now, when I first came to Indiana in 1961 as a freshman business student at Indiana University, my first insurance course taught me that the principles of insurance were to protect against the catastrophic, and as long as we are going to continue to negotiate first dollar coverage, first dollar benefits, then we're certainly going to have people lining up to use those benefits. Hospitals in the health care field don't control volume and services. Those are controlled by the physicians, and we deliver those services. So certainly, my common thread that I advise manufacturers today is that they have to work with some strong utilization review programs on what is being ordered, what types of services and volume is being ordered by physicians in those communities where they have those types of insurance benefits. Unlimited technology and first dollar insurance coverage will lead us to bankruptcy in the health care field.

Representative HAMILTON. I was interested in their comments, not just talking about lowering the rate of growth, but getting the costs down. Now, are they whistling Dixie on that? Is there any reasonable prospect of that happening to health care costs in the near term?

Mr. STELLA. I'm sorry, Mr. Chairman, but I cannot forecast a decrease in the amount of the gross national product being spent on health care in this country. We've got a ticking timebomb in our aging population, and as this country grows older and as this war baby becomes a senior citizen along with all the other millions of war babies, I think the demand for health care in this country is going to do nothing but increase the amount being spent on the GNP.

What we hope for in the industry is to try to do something with regard to that rate of increase, offer some alternative delivery systems, attempt to keep people out of the hospital by using lower cost facilities when they seek out health care.

Representative HAMILTON. We hear a lot about exports these days in a variety of contexts. Is there any prospect in Indiana that we will be exporting services in your areas?

Mr. MARCHESE. We do export services.

Representative HAMILTON. What kind of exporting do you do?

Mr. MARCHESE. We sell life insurance in a number of countries in Latin America and increasingly in Asia.

Representative **Hamilton**. Is that a growth market for you?

Mr. **Marchese**. Yes, sir.

Representative **Hamilton**. Pretty strong growth?

Mr. **Marchese**. Starting to be, I think, and in reinsurance, which is a big item in Lincoln's business, Europe is beginning to look good again, to us anyway.

Representative **Hamilton**. What about the rest of you? Do you see any export potential in your particular sector? I guess retailing would not have; would you, Grant?

Mr. **Monahan**. No.

Representative **Hamilton**. And Ken, probably not in hospitals?

Mr. **Stella**. Right.

Representative **Hamilton**. Bill.

Mr. **Watt**. The restructuring of transportation companies into integrated operations will have some favorable effect on stimulating export markets for the commodities that are hauled. It's certainly going to be true in the early stages. Let's take CSX and American Commercial Lines as an example. If that consolidation is approved, they're going to go after market share, and they're going to do it by writing attractive rates for grain handling, and that will stimulate the potential for export. I think there may be some possibility for the Amtrak facility at Beech Grove. It is now in the process of doing work involving rail cars from Italy for the New York transit system. I don't see that as a major growth industry but Beech Grove has become one of the best installations in the world for practical knowledge of rail car assembly and that sort of thing, and that technology may be exportable. Overall for the export potential in transportation, it's the product moved that would be enhanced and not the basic system.

Representative **Hamilton**. Yes; I'd like to ask you about the infrastructure situation in our State. The JEC did a study on hard choices on infrastructure, and one of the things we found is a tremendous gap in our State—in most States—between the needs in infrastructure and the available revenue. In Indiana, that gap was something like $28 billion, almost $30 billion between now and the year 2000. The study was done by some people at Indiana University.

Now, what is your reaction to that? I guess that's the first question. I'll have a couple of followups. Is there, in your judgment, a tremendous gap between need and available financing for infrastructure improvements?

Mr. **Watt**. I think you have to split the issue. When people talk of infrastructure, they're talking transportation and urban and rural utilities of other sorts. My guess is that the most serious problem is in the water and the sewer systems, and while the needs in transportation are significant, they'll probably be easier dealt with.

Looking right now, on an annual basis—and I'm not able to think in these megabillion concepts—I'd like to see another couple hundred million dollars a year going into the State and local highway systems because these funds coupled with the possibility of debt financing to accelerate the rehabilitation of bridges would, in orderly fashion, make progress toward wiping out that deferred maintenance. That may still, as I mentioned in my opening remarks, beg the requests for a number of new projects that some people may desire, but we've reached a point in transportation planning when we have to begin making intermodal choices.

One of the reasons, for example, for Florida to consider high-speed rail, is that they look at it not so much as a profit center standing alone. When their planners concluded that, given the roughly 5 to 6 million population growth they can anticipate in that State, if they don't do something like go to a high-speed rail corridor, they're going to have to build a 26-lane highway along the coast of Florida. I don't think anybody is silly enough to want to do that, and that same problem faces our cities. We've been accustomed to thinking in 1950's highway building terms when it may be necessary to start thinking in 1980's and 1990's public transit terms.

Representative HAMILTON. Where would you identify the major infrastructure needs of our State? The thing I hear about all the time is bridges. Every county is in bad shape on bridges, roads constantly, of course, and more and more water systems. I guess we begin to list all of them. Where would you identify the priority problems?

Mr. WATT. In the transportation area, clearly it's bridges. Resurfacing is not what it should be, and if you look at current resurfacing rates, some of our secondary State highways might get repaved only once every quarter century, and a figure like that sounds pretty scary. Some of them may not need resurfacing every 10 years, which is the standard we now use, but the problem with bridges is that once a bridge reaches a point of structural defect, it either has to be closed or weight limits posted on it. That destroys the value of the entire highway that the bridge facilitates, so clearly, the bridge issue is the problem.

A new bridge on a State highway costs about $300,000 on an average. A major upgrading of an older bridge is about $100,000. We have about 5,300 bridges on the State systems. Frequently, the knowledge of the problem in both roadway and bridge issues is inadequate. We don't have the engineering numbers available at the local level.

Representative HAMILTON. That came out in our study. The data are just not there. We don't have the data.

Mike and Grant, one of the things I've heard is that the proximity of our State to Chicago limits our market for financial insurance, retail services. Is that a major constraining factor in your view at all?

Mr. MARCHESE. I don't think it has anything to do with our business.

Representative HAMILTON. Doesn't affect you at all?

Mr. MARCHESE. No; it may help, it being near. That financial market may help us in our investment activities.

Mr. MONAHAN. I don't think it has an effect on retailing in Indiana either. In spite of Chicago being only 3 hours away, you've seen a number of retail chains move into the State, so I think that Chicago has had no effect on retail growth.

Representative HAMILTON. Well, I've been very pleased this morning with the quality of our panels, both you gentlemen and your predecessors. I think it's been absolutely first rate, and I commend you for your participation this morning. Thank you for your contributions, and we're glad to have had each of you.

It is now 11:05. The subcommittee will stand in recess until 1 p.m. when we will hear from the high tech panel.

[Whereupon, at 11:05 a.m., the subcommittee recessed, to reconvene at 1 p.m., the same day.]

HIGH TECHNOLOGY PANEL

Representative **Hamilton**. Well, the subcommittee will come to order. Gentlemen, we're glad to have you this afternoon for the second and concluding session of the subcommittee of the Joint Economic Committee.

We had some excellent testimony this morning from people I'm sure you're familiar with. We've been examining the several sectors of the Indiana economy. We had a panel on the manufacturing sector this morning and a panel on the service sector. We hear a lot these days about high technology, and so we'd like to get your assessments of what you think that means, particularly for our State of Indiana.

We're very pleased to have Mr. LeRoy Silva, professor of engineering, Purdue University; James Holds, chief operating officer, Archonics Design Partnership—did I pronounce that correctly?

Mr. **Holds**. That's right on.

Representative **Hamilton**. And Mr. Virts. Is that close enough?

Mr. **Virts**. That's close.

Representative **Hamilton**. All right, sir; corporate economist, Eli Lilly, Indianapolis.

Well, we're pleased to have you. We look forward to your testimony. Your statements, of course, will be entered into the record in full. I think you've been advised that what we'd like to do is have you summarize your statements in 10 minutes or so. We'll go right down the line beginning with you, Mr. Silva, and then at the end of that time, I'd like to address some questions to the panel. You may proceed.

STATEMENT OF LeROY F. SILVA, PROFESSOR OF ENGINEERING, BUSINESS AND INDUSTRIAL DEVELOPMENT CENTER, PURDUE UNIVERSITY

Mr. **Silva**. Thank you, Congressman Hamilton. I was specifically asked to give my views on how high technology development fits into the Indiana economy and to add to that my comments concerning public and private sector actions that would strengthen Indiana's economy, particularly in the technologically advanced industries.

I'd like to begin by reminding everybody that Indiana is not a backward State. It's an industrial State that interestingly enough has the foundations for a large high technology industrial economy. We have hinge pins, in my view, in that economy, and I will mention later what I mean by high technology economy. They are Purdue University, which is a world-class, technologically oriented university, and Delco Electronics which is the world's seventh largest manufacturer of semiconductor electronics. Between those two institutions, we have a foundation, in addition to the other technically oriented companies in our State, for a true technologically advanced economy.

The State government has developed a high technology investment plan that should remain in place regardless of whatever political party happens to be in power, and I think that's a key to a long-range success of any kind of a technologically oriented industrial advance.

We have another advantage in this State. The principal city and the capital city are the same town. Our neighboring States do not enjoy this privilege. If you think about it, in all the States around us and in many other States in the Union, there is a competition between the principal city and the capital city, and they frequently are different. We don't have that disadvantage in Indiana. We have a rapidly growing, exciting, vital capital city and principal city, Indianapolis, which is a magnet for technologically advanced industry.

When you put all these things together with the fact that Indiana has a friendly business climate for industry in general, we have the potential for becoming, maybe not a Silicon Valley, but probably a Silicon Prairie. In my view, technologically advanced industry is based upon the following industrial components: Microelectronics, electronics, telecommunications, information industries—that's software and what have you—biotechnology, industrial automation, and computers. I think that if a State has the segments of those industries in sufficient quantity as to build a critical mass, it can grow a high technology industry that is not only a significant employer in its own right but is also capable of diffusing that technology into the sister basic industries in the State.

Indiana has a good industrial base: Steel, automotive, durable goods, agriculture being the principal components of that industry. We have the basic ingredients it takes to build a strong, diversified economy and go into the next century in very, very fine shape.

All we need to do is get our act together and cooperate, build a cooperation between the academic, industrial, and government sectors in order to succeed.

[The prepared statement of Mr. Silva follows:]

PREPARED STATEMENT OF LEROY F. SILVA

In June of 1982, the Joint Economic Committee (JEC) of the Congress of the United States issued a report on the Location of High Technology Firms and Regional Economic Development. The findings in the report were based on a comprehensive survey of 691 high technology firms by the Committee staff. A particularly interesting finding concerns the planned distribution of high technology plants and permanent offices, by geographical region, during the 1981 to 1986 time period. The data indicated that by 1986 the planned distribution of high technology plants, if realized, would amount to a 33.3 percent increase of such plants in the Midwest. This is the highest of any geographic region. The Alexander Grant consulting firm of Chicago issues a report each year on the business climates of the States. Indiana routinely comes out on top in the Midwest. In fact, our State finished quite well based on the most recent data taken by Alexander Grant. When the JEC and Grant results are combined one can conclude that a trend is developing that can impact the economic future of Indiana.

The infamous winter climate of the Midwest was pointed out in the data of the JEC report as the most negative aspect of the region. Little can be done about this except to reflect on the virtues of Spring, Summer, and Fall in Indiana. Concern was expressed over energy costs and availability. In other areas the Midwest was shown to be quite competitive. Based on the data in the JEC report their is no valid reason that Indiana cannot become an area that can be home to a vigorous high technology industry.

In fact our State has a number of competitive advantages that should serve us well to grow a high technology industry. They are:

> The State government has developed a high technology development plan that should remain in place regardless of the political party in power.
>
> The principal city and the capital city in Indiana are the same city. Many states do not enjoy this advantage. For example, all of the states that surround Indiana have principal city(s) that are different from their capital city. Indianapolis is an exciting city, enjoying a planned renaissance, that is a magnet for the whole State.
>
> Indiana is blessed with two world-class universities, Indiana and Purdue, that endow our State with higher-education excellence in law, medicine, music, science, engineering, technology, agriculture, and pharmacy.
>
> Indiana has an excellent post-secondary vocational education system that is an indispensable part of a growing high-technology industry. Additionally, a recently established state-wide technology program makes custom-tailored technical education available in virtually any area of the State.
>
> Private sector and public sector cooperation, exemplified by Columbus, Fort Wayne and Indianapolis, have produced development that otherwise would not have occurred.

The economy of Indiana is based on several basic industries: steel, automotive, durable goods, and agriculture. However, a new basic industry is growing in the land. It is made up of elements from the microelectronics, electronics, telecommunications, information, biotechnology, industrial automation, and computer industries. It is no accident that our State's targeted industries program contains these industries. Let us describe this new basic industry with an acronym made up of the first letters of the component industries, i.e., metibiac. Metibiac is a high tech industry. It is an important industry in its own right with a significant employment of technical and professional people. However, it does not employ on the scale of traditional mass production industries. The real benefit of metibiac is the way in which its technologically advanced characteristics diffuse into its sister basic industries. The fundamental reason for building metibiac into the Indiana economy is the secondary effects it will have on our already existing basic industries and the surrounding industries that will grow up around it. We have a good start already on metibiac. The seventh largest microelectronics manufacturer in the world, Delco Electronics, is located in Kokomo. Advanced electronics manufacturers Wavetek-Indiana, Regency Electronics, Magnavox Government and Industrial Electronics Co., ITT Aerospace/Optical, Robinson-Nugent, SEA Group, CTS, Centralab, etc. are already located in the State. Robotics manufacturers Thermwood and Cybotech are here. The list reads on and on. We have a good start with existing high tech industry, world class universities, and a state government with a well conceived high tech economic development strategy. If we can attract some large companies with expansion plans to the State, say two large microelectronics manufacturers and four large electronics manufacturers, this added to what we already have would form a "critical mass" around which we can grow our own metibiac. What remains is a commitment by our citizens to support the effort.

If there be shortcomings in our efforts it probably is in the following areas:

> There is a shortage of seed and investment capital in State that is necessary to grow our own technologically advanced industry. More investment funds need to be created probably with the aid of special tax incentives.
>
> Underfunding of our flagship universities in the name of economy is counterproductive. The private and public sectors need to work together to continue to improve our leading research universities.
>
> Our citizens need to be made aware of the importance of post secondary education and capital formation to their economic welfare.

Indiana has been through some rough times. Out of trouble often comes unity capable of producing remarkable results. There is a growing spirit of cooperation, in matters of economic development, in all sectors of our State that I do not recall seeing in recent times.

Representative HAMILTON. Thank you very much. Mr. Holds.

STATEMENT OF JAMES H. HOLDS, CHIEF OPERATING OFFICER, ARCHONICS DESIGN PARTNERSHIP

Mr. HOLDS. Thank you, Congressman Hamilton. It's a privilege to be able to be here today to present to you some ideas concerning the future of high tech in Indiana and how we can work together to assure that it has a significant positive impact on our economy.

At the outset, I would like to say that I chose Indianapolis as my home last year when I retired from the U.S. Navy after 30 years in uniform. I was stationed in California for almost 15 of those years and have also seen duty in Florida, Texas, and Washington, DC. I decided to stay here after 3 years as Commanding Officer of the Naval Avionics Center because I like the attitude of the people and because of the unique qualities of dedication to community that I found here. Indianapolis is a renaissance city, and there is no reason why Indiana cannot become a renaissance State.

It would be impossible, if not presumptuous, of any one individual to attempt to address every consideration you posed in your letter of invitation. I believe that current conditions in the State, future prospects for growth, as well as a coherent plan for future activities were all contained in Indiana's strategic economic plan called "In Step With the Future" which was presented to the public on June 6, 1984 by the Indiana Department of Commerce and the Indiana State Chamber of Commerce. Hundreds of top leaders from the public and private sector participated in its development over an 18-month period. If that plan is diligently executed and monitored, it will be a vital key to the future economic health of Indiana.

With that framework already in place, I would like to concentrate my remarks on just two areas: Education, and research and development. The people and businesses of Indiana must make conscious and significant investments in these two areas in order to lay the groundwork for future prosperity. The challenge will be to convince the majority that these investments are necessary because the payoffs in these types of investments are usually years away with no immediate results visible.

Successful corporations invest on faith in the education and training of their most important resource, their people. They invest with equal faith in research and development to develop their products and manufacturing processes that will keep them competitive and profitable a decade or more in the future. As the "Third Wave" described by Alvin Toffler in his book by that title sweeps over our world, we find that States and, indeed, nations must have coherent policies, goals, and a strong commitment with respect to education and research and development in order to remain competitive in national and world markets where competition is keen and economic survival at stake.

Education is clearly the most critical area where investment is needed to assure future economic growth. We must equip our young people to deal with rapid change and give them the tools in mathematics and science to deal with an increasingly complex world. We must also identify the diamonds among our youth and polish them. The gifted and talented youngsters are natural resources of great importance that have been leveled by our society because of fears of elitism and societal pressures which have made excelling something to be avoided. Japan's extraordinary productivity is directly linked to high quality primary and secondary education.

I read and hear more and more that companies considering relocation are looking at the educational level of the potential work force as a significant factor in the decision process. They are also looking at the educational opportunities available to their employees and their employees' children as a significant quality of life factor. I read recently that a California firm had relocated to Carmel, IN, because of—quoting the marketing director, "Lower costs and better quality of life." I know this to be true, and this firm learned that it was so, but I wonder how many Indiana citizens believe it.

It is generally conceded that secondary education in rural Indiana is inadequate to prepare a young person to be an electronics technician without extensive additional training. At the Naval Avionics Center, we invested heavily in education and training for technicians and professionals at all levels from entry on up in order for them to stay even with the state of the art.

While Indiana may lack the high-tech skills, the State does possess a highly motivated and educable work force. These latter qualities are what impressed me most about Hoosiers. They are optimistic, enthusiastic, and highly motivated. Low-wage foreign markets may win out where the labor content takes little thought or education, but it cannot begin to compete where the labor content is highly skilled, rapidly changing, and requires educated workers.

My experience here in Indianapolis with the Partners in Education Program sponsored by the chamber of commerce shows me that it is essential for businesses to be much more involved in the educational process. They can make a real and continuing contribution to the educational system and its end product by communicating about, collaborating on, and then planning and implementing programs of mutual benefit.

The Indianapolis Public Schools now have a business partner for each of its high schools with a significant number of its junior highs also partners. The business partners bring a real-life perspective to curriculum, textbooks, behaviors and expectations and are having a real and favorable impact on the IPS.

This type of cooperation does not come overnight, and the current partnerships have grown out of a small beginning over 5 years ago.

A private entity which has tremendous potential for stimulation of high-tech industry in Indiana is the International Flexible Automation Center [INFAC]. INFAC is conceived as an education and marketing center for all types of flexible automation. Potential users can remain current with the virtual explosion of technology as well as investigate and select automation equipment at INFAC. The target market includes some 170,000 medium-sized companies which have a purchasing power of over $11 billion.

The need for our attention to and investment in primary and secondary education is matched by at least equal concerns for higher education, its availability and quality in this State. We are blessed with many outstanding colleges and universities in this State. Our two largest universities have a major joint campus here in Indianapolis. I believe that the priority given to faculty and programs at that large and growing campus will have a significant impact on the future economic growth of the greater Indianapolis area and hence, the State.

At this point, I'd like to shift my remarks to the second area challenge, research and development, or R&D. There have been positive things happening with R&D in Indiana during the past year. Our legislature created two new not-for-profit entities to stimulate interest in, provide capital investment for, and facilitate new ventures, especially in high-tech industry.

The Indiana Corp. for Science and Technology was funded by the State legislature to seek out new developments in science and technology and to encourage and support development of marketplace oriented research.

The Indiana Institute for New Business Ventures was formed to stimulate the creation and development of small growth-oriented enterprises which will provide present and future employment and growth opportunities for the Indiana economy.

There are venture capital entities in the State of Indiana, but as chairman of the Technology and Assessment and Strategy Committee of the Indianapolis project, I found that very little seed capital is available for the enterpreneur with a bright new idea. Indiana's venture capitalists are very conservative and are generally only looking for relatively mature products where prototypes have been produced and the concept essentially proven. There is a critical need for seed capital which will take high risks for high payoffs and will fund technology transfer and startups.

The term "technology transfer" used in the last sentence is very important, and I would like to dwell on that for just a few moments. There is a vast amount of basic and clinical research going on in our universities and private research going on in our universities and private research centers today. From this research emerges new data, new concepts, and new technologies. These are the uncut diamonds of research awaiting selection and polishing.

I can well remember a description I heard of a laser in the sixties. It was called a solution looking for problems to solve. The technology of the laser had to be transferred to practical application, and that process was and is time and money consuming. The dollars that go into a research grant seldom produce a usable product which is immediately marketable. There is a critical need for efforts that will transfer that technology through engineering, design, and a practical business sense to the marketplace. We must admit that this process has not been very well done in the past because professors and research scientists are not usually entrepreneurs.

Indiana is fortunate to have in place a not-for-profit research organization which has as its charter the very technology transfer that we are talking about. It is the Indianapolis Center for Advanced Research or ICFAR. ICFAR provides a capability for exploratory, advanced, and engineering development which compliments the basic and clinical research pursued by our universities. I see

ICFAR helping bridge the gap between the process of new knowledge generation and the industrial commercialization of needed products. ICFAR is focusing its efforts on two areas in which it has an established track record: medical instrumentation and software/electronic engineering.

While Federal funding of basic research has been on the rise recently, the funding of applied research has been on the decline. The Congress would do well to create additional incentives for the establishment of private-public partnerships to assist start-ups from basic research findings. It must also be sure that such sharing of research costs is not thwarted by fear of antitrust prosecution.

I would be remiss if I did not mention the Naval Avionics Center which is very involved in technology transfer. Having retired from the NAC just last September, I was in a position to observe first-hand operations of that outstanding Navy field activity.

Since the fiscal year 1983 and fiscal year 1984 Department of Defense Appropriations Acts removed Navy Industrial Fund activities from civilian personnel ceiling controls, NAC has been able to increase substantially its efforts in two program areas that will dramatically increase the Navy's ability to acquire its products more competitively.

The first area is data package validation, a process in which manufacturing drawings and specifications are validated by a comprehensive engineering program including selective fabrication and testing, for the support of low-risk competitive procurement. The second is called high-cost spares and repair parts competitive breakout which identifies high-cost commodities that can be purchased competitively at much lower cost. Savings are projected at over $590 million from efforts which have started in these two areas since ceiling relief was received.

A very real and important benefit that follows from competition based on a validated data package is that large-dollar production procurements often fall within the reach of medium and small business because the risk is low. I feel that NAC can serve as a magnet to attract more of these businesses into Indiana as the demand for their products continues to increase.

In addition to its activities in the area of increasing competition, NAC has long been a leader in state-of-the-art technologies in the avionics field. As such, it is a natural for businesses that serve these technologies to seriously consider relocation in Indiana as demand increases.

It should be of interest that total fiscal year 1984 procurements originating from NAC will be in the range of $290 million and increasing rapidly.

The point I would like to make is that the potential for industrial growth in the foregoing areas is directly dependent on NAC's ability to continue those efforts which became possible with ceiling relief and to expand efforts in the high technology areas. Civilian personnel ceiling relief for NIF activities should be continued.

In his novel, "Space," James Mitchener has his aging NASA engineer turned scientist make the following statement as he accepts a prestigious award for his distinguished accomplishments: "Ahead of us lies one of the world's major explosions of knowledge." He goes on to add that in 1938, President Roosevelt assembled the brightest scientists in America at the White House to advise him of what the future held in store. After 3 days of intense speculation, this learned group failed to predict atomic power, radar, rockets, jet aircraft, computers, xerography, penicillin, all of which burst upon our world within the next few years.

We cannot know what the year 2000 will bring, but we must strive to position ourselves to have a significant piece of the action, whatever it does bring.

I believe the future is bright for Indianapolis and Indiana or I would not have settled here. I think John Naisbitt missed at least one city when he listed his 10 cities of great opportunity in "Megatrends." That city is Indianapolis, and its successes will be felt throughout Indiana.

Thank you very much, sir.

[The prepared statement of Mr. Holds follows:]

Prepared Statement of James H. Holds

MR. HAMILTON, MEMBERS OF THE SUBCOMMITTEE AND FELLOW MEMBERS OF THIS PANEL ADDRESSING HIGH TECHNOLOGY INDUSTRY IN THE STATE OF INDIANA. IT IS A PRIVILEGE TO BE ABLE TO BE HERE TODAY TO PRESENT TO YOU SOME IDEAS CONCERNING THE FUTURE OF HIGH TECH IN INDIANA, AND HOW WE CAN WORK TOGETHER TO ASSURE THAT IT HAS A SIGNIFICANT POSITIVE IMPACT ON OUR ECONOMY.

AT THE OUTSET, I WOULD LIKE TO SAY THAT I CHOSE INDIANAPOLIS AS MY HOME LAST YEAR WHEN I RETIRED FROM THE U.S. NAVY AFTER THIRTY YEARS IN UNIFORM. I WAS STATIONED IN CALIFORNIA FOR ALMOST FIFTEEN OF THOSE YEARS AND HAVE ALSO SEEN DUTY IN FLORIDA, TEXAS AND WASHINGTON, D.C. I DECIDED TO STAY HERE, AFTER THREE YEARS AS COMMANDING OFFICER OF THE NAVAL AVIONICS CENTER, BECAUSE I LIKED THE ATTITUDE OF THE PEOPLE AND BECAUSE OF THE UNIQUE QUALITIES OF DEDICATION TO COMMUNITY THAT I FOUND HERE. INDIANAPOLIS IS A RENAISSANCE CITY AND THERE IS NO REASON WHY INDIANA CANNOT BECOME A RENAISSANCE STATE.

IT WOULD BE IMPOSSIBLE, IF NOT PRESUMPTUOUS, OF ANY ONE INDIVIDUAL TO ATTEMPT TO ADDRESS EVERY CONSIDERATION YOU POSED IN YOUR LETTER OF INVITATION. I BELIEVE THAT CURRENT CONDITIONS IN

THE STATE, FUTURE PROSPECTS FOR GROWTH AS WELL AS A COHERENT PLAN FOR FUTURE ACTIVITIES WERE ALL CONTAINED IN INDIANA'S STRATEGIC ECONOMIC PLAN CALLED IN STEP WITH THE FUTURE, WHICH WAS PRESENTED TO THE PUBLIC ON JUNE 6, 1984 BY THE INDIANA DEPARTMENT OF COMMERCE AND THE INDIANA STATE CHAMBER OF COMMERCE. HUNDREDS OF TOP LEADERS FROM THE PUBLIC AND PRIVATE SECTOR PARTICIPATED IN ITS DEVELOPMENT OVER AN EIGHTEEN MONTH PERIOD. IF THAT PLAN IS DILIGENTLY EXECUTED AND MONITORED, IT WILL BE A VITAL KEY TO THE FUTURE ECONOMIC HEALTH OF INDIANA.

WITH THAT FRAMEWORK ALREADY IN PLACE, I WOULD LIKE TO CONCENTRATE MY REMARKS ON JUST TWO AREAS - EDUCATION, AND RESEARCH AND DEVELOPMENT. THE PEOPLE AND BUSINESSES OF INDIANA MUST MAKE CONSCIOUS AND SIGNIFICANT INVESTMENTS IN THESE TWO AREAS IN ORDER TO LAY THE GROUNDWORK FOR FUTURE PROSPERITY. THE CHALLENGE WILL BE TO CONVINCE THE MAJORITY THAT THESE INVESTMENTS ARE NECESSARY BECAUSE THE PAYOFFS IN THESE TYPES OF INVESTMENTS ARE USUALLY YEARS AWAY, WITH NO IMMEDIATE RESULTS VISIBLE. SUCCESSFUL CORPORATIONS INVEST ON FAITH IN THE EDUCATION AND TRAINING OF THEIR MOST IMPORTANT RESOURCE, THEIR PEOPLE. THEY INVEST WITH EQUAL FAITH IN RESEARCH AND DEVELOPMENT TO DEVELOP THE PRODUCTS AND MANUFACTURING PROCESSES THAT WILL KEEP THEM COMPETITIVE AND PROFITABLE A DECADE OR MORE IN THE FUTURE. AS THE "THIRD WAVE" DESCRIBED BY ALVIN TOFFLER IN HIS BOOK BY THAT TITLE SWEEPS OVER OUR WORLD, WE FIND THAT STATES AND, INDEED, NATIONS MUST HAVE

COHERENT POLICIES, GOALS AND A STRONG COMMITMENT WITH RESPECT TO EDUCATION AND RESEARCH AND DEVELOPMENT IN ORDER TO REMAIN COMPETITIVE IN NATIONAL AND WORLD MARKETS WHERE COMPETITION IS KEEN AND ECONOMIC SURVIVAL IS AT STAKE.

EDUCATION IS CLEARLY THE MOST CRITICAL AREA WHERE INVESTMENT IS NEEDED TO ASSURE FUTURE ECONOMIC GROWTH. WE MUST EQUIP OUR YOUNG PEOPLE TO DEAL WITH RAPID CHANGE AND GIVE THEM THE TOOLS IN MATHEMATICS AND SCIENCE TO DEAL WITH AN INCREASINGLY COMPLEX WORLD. I DON'T WANT TO SELL LANGUAGE ARTS OR SOCIAL STUDIES SHORT FOR THE ABILITY TO COMMUNICATE IS EQUALLY VITAL AS IS A KNOWLEDGE OF OUR WORLD. WE MUST ALSO IDENTIFY THE DIAMONDS AMONG OUR YOUTH AND POLISH THEM. THE GIFTED AND TALENTED YOUNGSTERS ARE NATURAL RESOURCES OF GREAT IMPORTANCE THAT HAVE BEEN LEVELED BY OUR SOCIETY BECAUSE OF FEARS OF ELITISM AND SOCIETAL PRESSURES WHICH HAVE MADE EXCELLING SOMETHING TO BE AVOIDED. JAPAN'S EXTRAORDINARY PRODUCTIVITY IS DIRECTLY LINKED TO HIGH QUALITY PRIMARY AND SECONDARY EDUCATION.

I READ AND HEAR MORE AND MORE THAT COMPANIES CONSIDERING RELOCATION ARE LOOKING AT THE EDUCATIONAL LEVEL OF THE POTENTIAL WORK FORCE AS A SIGNIFICANT FACTOR IN THE DECISION PROCESS. THEY ARE ALSO LOOKING AT THE EDUCATIONAL OPPORTUNITIES AVAILABLE TO THEIR EMPLOYEES AND THEIR EMPLOYEE'S CHILDREN AS A SIGNIFICANT QUALITY OF LIFE FACTOR. I READ RECENTLY THAT A CALIFORNIA FIRM

HAD RELOCATED TO CARMEL, INDIANA BECAUSE OF, QUOTING THE MARKETING DIRECTOR, "LOWER COSTS AND BETTER QUALITY OF LIFE". I KNOW THIS TO BE TRUE, AND THIS FIRM LEARNED THAT IT WAS SO, BUT I WONDER HOW MANY INDIANA CITIZENS BELIEVE IT.

IT IS GENERALLY CONCEDED THAT SECONDARY EDUCATION IN RURAL INDIANA IS INADEQUATE TO PREPARE A YOUNG PERSON TO BE AN ELECTRONICS TECHNICIAN WITHOUT EXTENSIVE ADDITIONAL TRAINING. AT NAVAL AVIONICS CENTER, WE INVESTED HEAVILY IN EDUCATION AND TRAINING FOR TECHNICIANS AND PROFESSIONALS AT ALL LEVELS FROM ENTRY ON UP IN ORDER FOR THEM TO STAY EVEN WITH THE STATE OF THE ART.

WHILE INDIANA MAY LACK THE HIGH TECH SKILLS, THE STATE DOES POSSESS A HIGHLY MOTIVATED AND EDUCABLE WORK FORCE. THESE LATTER QUALITIES ARE WHAT IMPRESSED ME MOST ABOUT HOOSIERS - THEY ARE OPTIMISTIC, ENTHUSIASTIC AND HIGHLY MOTIVATED. LOW WAGE FOREIGN LABOR MARK~~ETS MA~~Y WIN OUT WHERE THE LABOR CONTENT TAKES LITTLE THOUGHT OR EDUCATION, BUT IT CANNOT BEGIN TO COMPETE WHERE THE LABOR CONTENT IS HIGHLY SKILLED, RAPIDLY CHANGING AND REQUIRES EDUCATED WORKERS.

MY EXPERIENCE HERE IN INDIANAPOLIS WITH THE PARTNERS IN EDUCATION PROGRAM SPONSORED BY THE CHAMBER OF COMMERCE SHOWS ME THAT IT IS ESSENTIAL FOR BUSINESSES TO BE MUCH MORE INVOLVED IN THE

EDUCATIONAL PROCESS. THEY CAN MAKE A REAL AND CONTINUING CONTRIBUTION TO THE EDUCATIONAL SYSTEM AND ITS END PRODUCT BY COMMUNICATING ABOUT, COLLABORATING ON, AND THEN PLANNING AND IMPLEMENTING PROGRAMS OF MUTUAL BENEFIT. THE INDIANAPOLIS PUBLIC SCHOOLS NOW HAS A BUSINESS PARTNER FOR EACH OF ITS HIGH SCHOOLS WITH A SIGNIFICANT NUMBER OF ITS JUNIOR HIGHS ALSO PARTNERED. THE BUSINESS PARTNERS BRING A REAL-LIFE PERSPECTIVE TO CURRICULUMS, TEXTBOOKS, BEHAVIORS AND EXPECTATIONS AND ARE HAVING A REAL AND FAVORABLE IMPACT ON THE IPS.

THIS TYPE OF COOPERATION DOES NOT COME OVERNIGHT AND THE CURRENT PARTNERSHIPS HAVE GROWN OUT OF A SMALL BEGINNING OVER FIVE YEARS AGO.

A CONSULTANT WHO IS ENDEAVORING TO REPLICATE THE PARTNERS IN EDUCATION PROGRAM IN ANOTHER DOZEN CITIES IN THE STATE HAS FOUND REAL BARRIERS TO COMMUNICATION, MUCH LESS COLLABORATION BETWEEN THE PUBLIC AND PRIVATE SECTORS. EACH SECTOR SEEMS TO BE IN ITS OWN NARROW TRACK, WITH A HIGH RESISTANCE TO CHANGE, FUTURES FORECASTING AND HIGH TECH SOLUTIONS. REDUCTION OF FEDERAL AID IN MANY STATE PROGRAMS HAS LEFT A VOID OF LEADERSHIP THAT HAS NOT BEEN FILLED VERY EFFECTIVELY. THERE NEEDS TO BE LEADERSHIP AND INCENTIVES FOR BUSINESS AND THE PUBLIC SECTOR, ESPECIALLY EDUCATION, TO COLLABORATE IN JOINT VENTURES OF MUTUAL INTEREST.

A PRIVATE ENTITY WHICH HAS TREMENDOUS POTENTIAL FOR STIMULATION OF HI-TECH INDUSTRY IN INDIANA IS THE INTERNATIONAL FLEXIBLE AUTOMATION CENTER (INFAC). INFAC IS CONCEIVED AS AN EDUCATION AND MARKETING CENTER FOR ALL TYPES OF FLEXIBLE AUTOMATION. POTENTIAL USERS CAN REMAIN CURRENT WITH THE VIRTUAL EXPLOSION OF TECHNOLOGY, AS WELL AS INVESTIGATE AND SELECT AUTOMATION EQUIPMENT AT INFAC. THE TARGET MARKET INCLUDES SOME 170,000 MEDIUM SIZED COMPANIES WHICH HAVE A PURCHASING POWER OF OVER ELEVEN BILLION DOLLARS.

THE NEED FOR OUR ATTENTION TO AND INVESTMENT IN PRIMARY AND SECONDARY EDUCATION IS MATCHED BY AT LEAST EQUAL CONCERNS FOR HIGHER EDUCATION - ITS AVAILABILITY AND QUALITY IN THIS STATE. WE ARE BLESSED WITH MANY OUTSTANDING COLLEGES AND UNIVERSITIES IN OUR STATE. OUR TWO LARGEST UNIVERSITIES HAVE A MAJOR JOINT CAMPUS HERE IN INDIANAPOLIS. I BELIEVE THAT THE PRIORITY GIVEN TO FACULTY AND PROGRAMS AT THAT LARGE AND GROWING CAMPUS WILL HAVE A SIGNIFICANT IMPACT ON THE FUTURE ECONOMIC GROWTH OF THE GREATER INDIANAPOLIS AREA AND HENCE THE STATE.

AT THIS POINT, I'D LIKE TO SHIFT MY REMARKS TO THE SECOND AREA OF CHALLENGE - RESEARCH AND DEVELOPMENT OR R AND D. THERE HAVE BEEN MANY POSITIVE THINGS HAPPENING WITH R AND D IN INDIANA DURING THE PAST YEAR. OUR LEGISLATURE CREATED TWO NEW NOT-FOR-PROFIT ENTITIES TO STIMULATE INTEREST IN, PROVIDE CAPITAL INVESTMENT FOR AND FACILITATE NEW VENTURES, ESPECIALLY IN HIGH TECH INDUSTRY.

THE INDIANA CORPORATION FOR SCIENCE AND TECHNOLOGY (CST) WAS FUNDED BY THE STATE LEGISLATURE TO SEEK OUT NEW DEVELOPMENTS IN SCIENCE AND TECHNOLOGY AND TO ENCOURAGE AND SUPPORT DEVELOPMENT OF MARKETPLACE ORIENTED RESEARCH. THESE GOALS ARE ACHIEVED BY DIRECT FUNDING OF: GRANTS, CONTRACTS, JOINT VENTURES, INVESTMENTS, LOANS, SALES, LICENSURES, SURVEYS, STUDIES, WORKSHOPS, SEMINARS AND ROUNDTABLES.

THE INDIANA INSTITUTE FOR NEW BUSINESS VENTURES WAS FORMED TO STIMULATE THE CREATION AND DEVELOPMENT OF SMALL GROWTH ORIENTED ENTERPRISES WHICH WILL PROVIDE PRESENT AND FUTURE EMPLOYMENT AND GROWTH OPPORTUNITIES FOR THE INDIANA ECONOMY. THE INSTITUTE PROVIDES RESOURCE MATERIALS AND EXPERTS TO ASSIST AN ENTERPRISE IN THE PREPARATION OF A SOUNDLY CONCEIVED AND WELL PREPARED BUSINESS PLAN.

THERE ARE VENTURE CAPITAL ENTITIES IN THE STATE OF INDIANA, BUT AS CHAIRMAN OF THE TECHNOLOGY ASSESSMENT AND STRATEGY COMMITTEE

OF THE INDIANAPOLIS PROJECT, I HAVE FOUND THAT VERY LITTLE SEED CAPITAL IS AVAILABLE FOR THE ENTREPRENEUR WITH A BRIGHT NEW IDEA. INDIANA'S VENTURE CAPITALISTS ARE VERY CONSERVATIVE AND ARE GENERALLY ONLY LOOKING FOR RELATIVELY MATURE PRODUCTS WHERE PROTOTYPES HAVE BEEN PRODUCED AND THE CONCEPT ESSENTIALLY PROVEN. THERE IS A CRITICAL NEED FOR SEED CAPITAL WHICH WILL TAKE HIGH RISKS FOR HIGH PAYOFFS AND WILL FUND TECHNOLOGY TRANSFER AND START-UPS.

THE TERM TECHNOLOGY TRANSFER USED IN THE LAST SENTENCE IS VERY IMPORTANT AND I WOULD LIKE TO DWELL ON IT FOR JUST A FEW MOMENTS. THERE IS A VAST AMOUNT OF BASIC AND CLINICAL RESEARCH GOING ON IN OUR UNIVERSITIES AND PRIVATE RESEARCH CENTERS TODAY. FROM THIS RESEARCH EMERGES NEW DATA, NEW CONCEPTS AND NEW TECHNOLOGIES. THESE ARE THE UNCUT DIAMONDS OF RESEARCH, AWAITING SELECTION AND POLISHING. I CAN WELL REMEMBER A DESCRIPTION I HEARD OF A LASER IN THE SIXTIES - IT WAS CALLED A "SOLUTION LOOKING FOR PROBLEMS TO SOLVE". THE TECHNOLOGY OF THE LASER HAD TO BE TRANSFERRED TO PRACTICAL APPLICATIONS, AND THAT PROCESS WAS AND IS TIME AND MONEY CONSUMING. THE DOLLARS THAT GO INTO A RESEARCH GRANT SELDOM PRODUCE A USABLE PRODUCT WHICH IS IMMEDIATELY MARKETABLE. THERE IS A CRITICAL NEED FOR EFFORTS THAT WILL TRANSFER THAT TECHNOLOGY THROUGH ENGINEERING, DESIGN AND A PRACTICAL BUSINESS SENSE TO THE MARKETPLACE. WE MUST ADMIT THAT THIS PROCESS HAS NOT BEEN VERY WELL DONE IN THE PAST BECAUSE PROFESSORS AND RESEARCH SCIENTISTS ARE NOT USUALLY ENTREPRENEURS.

INDIANA IS FORTUNATE TO HAVE IN PLACE A NOT-FOR-PROFIT RESEARCH ORGANIZATION WHICH HAS AS ITS CHARTER THE VERY TECHNOLOGY TRANSFER THAT WE ARE TALKING ABOUT - IT IS THE INDIANAPOLIS CENTER FOR ADVANCED RESEARCH (ICFAR). ICFAR PROVIDES A CAPABILITY FOR EXPLORATORY, ADVANCED AND ENGINEERING DEVELOPMENT WHICH COMPLEMENTS THE BASIC AND CLINICAL RESEARCH PURSUED BY OUR UNIVERSITIES. ICFAR CAN HELP BRIDGE THE GAP BETWEEN THE PROCESS OF NEW KNOWLEDGE GENERATION AND THE INDUSTRIAL COMMERCIALIZATION OF NEEDED PRODUCTS. ICFAR IS FOCUSING ITS EFFORT ON TWO AREAS IN WHICH IT HAS AN ESTABLISHED TRACK RECORD - MEDICAL INSTRUMENTATION AND SOFTWARE/ELECTRONIC ENGINEERING.

WHILE FEDERAL FUNDING OF BASIC RESEARCH HAS BEEN ON THE RISE RECENTLY, THE FUNDING OF APPLIED RESEARCH HAS BEEN ON THE DECLINE. THE CONGRESS WOULD DO WELL TO CREATE ADDITIONAL INCENTIVES FOR THE ESTABLISHMENT OF PRIVATE-PUBLIC PARTNERSHIPS TO ASSIST START-UPS FROM BASIC RESEARCH FINDINGS. IT MUST ALSO BE SURE THAT SUCH SHARING OF RESEARCH COSTS IS NOT THWARTED BY FEAR OF ANTI-TRUST PROSECUTION.

I WOULD BE REMISS IF I DID NOT MENTION THE NAVAL AVIONICS CENTER (NAC), WHICH IS VERY INVOLVED IN TECHNOLOGY TRANSFER. HAVING RETIRED FROM THE NAC JUST LAST SEPTEMBER, I WAS IN A POSITION TO OBSERVE, FIRST-HAND, THE OPERATIONS OF THAT OUTSTANDING NAVY FIELD ACTIVITY.

SINCE THE FY-83 AND FY-84 DEPARTMENT OF DEFENSE APPROPRIATIONS ACTS REMOVED NAVY INDUSTRIAL FUND (NIF) ACTIVITIES FROM CIVILIAN PERSONNEL CEILING CONTROLS, NAC HAS BEEN ABLE TO INCREASE SUBSTANTIALLY ITS EFFORTS IN TWO PROGRAM AREAS THAT WILL DRAMATICALLY INCREASE THE NAVY'S ABILITY TO ACQUIRE ITS PRODUCTS MORE COMPETITIVELY. THE FIRST AREA IS DATA PACKAGE VALIDATION, A PROCESS IN WHICH MANUFACTURING DRAWINGS AND SPECIFICATIONS ARE VALIDATED BY A COMPREHENSIVE ENGINEERING PROGRAM INCLUDING SELECTIVE FABRICATION AND TESTING, FOR THE SUPPORT OF LOW-RISK COMPETITIVE PROCUREMENT. THE SECOND IS CALLED HIGH-COST SPARES AND REPAIR PARTS COMPETITIVE BREAKOUT WHICH IDENTIFIES HIGH-COST COMMODITIES COMMODITIES THAT CAN BE PURCHASED COMPETITIVELY AT MUCH LOSER COST. SAVINGS ARE PROJECTED AT OVER $590,000,000 FROM EFFORTS WHICH HAVE STARTED IN THESE TWO AREAS SINCE CEILING RELIEF WAS RECEIVED.

A VERY REAL AND IMPORTANT BENEFIT THAT FOLLOWS FROM COMPETITION BASED ON A VALIDATED DATA PACKAGE IS THAT LARGE-DOLLAR PRODUCTION PROCUREMENTS OFTEN FALL WITHIN THE REACH OF MEDIUM AND SMALL BUSINESS, BECAUSE THE RISK IS LOW. I FEEL THAT NAC CAN SERVE AS A MAGNET TO ATTRACT MORE OF THESE BUSINESSES INTO INDIANA AS THE DEMAND FOR THEIR PRODUCTS CONTINUES TO INCREASE.

IN ADDITION TO ITS ACTIVITIES IN THE AREA OF INCREASING COMPETITION, NAC HAS LONG BEEN A LEADER IN STATE-OF-THE-ART TECHNOLOGIES IN THE AVIONICS FIELD. AS SUCH, IT IS A NATURAL FOR BUSINESSES THAT SERVE THESE TECHNOLOGIES TO SERIOUSLY CONSIDER RELOCATING IN INDIANA AS DEMAND INCREASES.

IT SHOULD BE OF INTEREST THAT TOTAL FY-84 PROCUREMENTS ORIGINATING FROM NAC WILL BE IN THE RANGE OF $290,000,000, AND INCREASING RAPIDLY.

THE POINT I WOULD LIKE TO MAKE IS THAT THE POTENTIAL FOR INDUSTRIAL GROWTH IN THE FOREGOING AREAS IS DIRECTLY DEPENDENT ON NAC'S ABILITY TO CONTINUE THOSE EFFORTS WHICH BECAME POSSIBLE WITH CEILING RELIEF AND TO EXPAND EFFORTS IN THE HIGH TECHNOLOGY AREAS. CIVILIAN PERSONNEL CEILING RELIEF FOR NIF ACTIVITIES SHOULD BE CONTINUED.

IN HIS NOVEL SPACE, JAMES MITCHENER HAS HIS AGING NASA ENGINEER TURNED SCIENTIST MAKE THE FOLLOWING STATEMENT AS HE ACCEPTS A PRESTIGIOUS AWARD FOR HIS DISTINGUISHED ACCOMPLISHMENTS, "AHEAD OF US LIES ONE OF THE WORLD'S MAJOR EXPLOSIONS OF KNOWLEDGE". HE GOES ON TO ADD THAT IN 1938 PRESIDENT ROOSEVELT ASSEMBLED THE BRIGHTEST SCIENTISTS IN AMERICA AT THE WHITE HOUSE TO ADVISE HIM OF WHAT THE FUTURE HELD IN STORE. AFTER THREE DAYS OF INTENSE SPECULATION THIS LEARNED GROUP FAILED TO PREDICT ATOMIC POWER, RADAR, ROCKETS, JET AIRCRAFT, COMPUTERS, XEROGRAPHY AND PENICILLIN - ALL OF WHICH BURST UPON OUR WORLD WITHIN THE NEXT FEW YEARS.

WE CANNOT KNOW WHAT THE YEAR 2000 WILL BRING, BUT WE MUST STRIVE TO POSITION OURSELVES TO HAVE A SIGNIFICANT PIECE OF THE ACTION, WHATEVER IT DOES BRING.

I BELIEVE THE FUTURE IS BRIGHT FOR INDIANAPOLIS AND INDIANA OR I WOULD NOT HAVE SETTLED HERE. I THINK JOHN NAISBITT MISSED AT LEAST ONE CITY WHEN HE LISTED HIS TEN CITIES OF GREAT OPPORTUNITY IN MEGATRENDS. THAT CITY IS INDIANAPOLIS AND ITS SUCCESSES WILL BE FELT THROUGHOUT INDIANA.

Representative HAMILTON. Thank you very much, Mr. Holds. The final statement will be from Mr. Virts.

STATEMENT OF JOHN R. VIRTS, CORPORATE STAFF ECONOMIST, ELI LILLY & CO.

Mr. VIRTS. Thank you, Congressman. I appreciate the opportunity to be here this afternoon with this panel of people interested in high tech.

For more than a century in pharmaceuticals, for decades in agrichemicals, and for a decade in medical devices, Eli Lilly & Co. has concentrated a very high proportion of its efforts in research and development. Thus, we have been what is now known as a high-tech company for longer than any of us can personally remember. We've also been vitally interested in the economy of our State and have worked in many ways to enhance its vitality and its contribution to the quality of life in Indiana and, indeed, the entire country.

Maintaining a climate in which entrepreneurship is attractive to individuals and business organizations is the most important role for Government in its efforts to foster economic growth. The growth of individual towns, cities, counties, States, regions, and even nations cannot, and should not, be expected to be constant over time. The so-called structural shifts being experienced in the Great Lakes region—including our State of Indiana—are to be expected. They are the unfortunate consequences of change, which always follow growth achieved through innovation and competition.

In the past several years, the consequences of these basic shifts, in both Indiana and the country, have been intensified by the very necessary but still incomplete Federal programs to improve the Nation's overall possibilities to achieve sustained economic growth—particularly reduction in inflation.

Indiana is recovering. The economic climate has improved. The recently announced—and already mentioned, I believe, by each of the prior speakers—joint public and private strategic economic development plan for our State is an important step forward. Our climate of cooperation among government, business, labor, and the general public, as evidenced by this plan, will continue to be a model for others to emulate. It is, indeed, this sort of action that is needed, rather than any form of governmental "industrial policy," with its attendant bureaucracy and danger of additional cost with little or no longrun economic benefit.

No State, not even Indiana, can achieve a desirable level of economic growth unless the Federal Government's policies and activities are also in line with the economic environmental needs for growth. Three areas of Federal policy are fundamental to reestablishing the possibility for our country to grow economically at even a rate of around 3 percent annually, in real terms. First, efforts must be continued to reduce even further the rate of price inflation. The aberrations and uncertainties of inflation—even in the range of 4 to 6 percent annual rates—are very destructive to saving and investment decisions conducive to growth.

Second, the total spending of all government needs to be further reduced, in real terms, relative to the economy's total real output. This is probably the toughest problem our society faces. Even after we have eliminated all possible inefficiencies in government administration of programs, we will still have a problem. The choice between defense and entitlements—which is basic to this problem—is an extremely difficult one. Further deindexation of all entitlements is a partial answer.

Third, the costs of government regulation of business activities should be constantly monitored and reduced where possible. Now, this does not mean that we, as a society, need to give up the goals or the missions of the Food and Drug Administration, Environmental Protection Agency, Occupational Health Administration, or any other such programs. What we need is continuing attention to the regulatory mechanisms and the costs of alternative plans.

In terms of more specific suggestions for the attention of Congress, I suggest that the following are important considerations for the remainder of this session and the next: First, under no circumstances should we give up the indexation of personal income tax rates. The principle of stabilizing the impact of inflation on our basic tax is extremely important to saving and, thus, investment decisions. In addition, Government should not be allowed to benefit from inflation, which only it can create or control.

Second, the Federal deficit must be reduced and controlled. If policies are implemented to reduce Federal spending and deficits are still in prospect, then annual surtaxes should be imposed. Such surtaxes should have an impact on all taxpayers in equal percentage terms.

In my opinion, the economic environmental needs of the high technology industries, including pharmaceuticals, medical instruments, and agrichemicals, differ very little from the needs of business and society in general. I would like to call your attention, however, to four areas of special concern. First, investment in research and development is a particularly uncertain form of investment but necessary for innovation and productivity growth. A continuation of tax incentives and current Federal and Indiana tax law will be a positive force for economic growth in the Nation and the State.

Second, the impact of the cost of necessary regulation of both R&D and the assessment of resulting products' safety and efficacy should be further reduced. Continuing changes in regulatory mechanisms will be the most efficient means of reducing such regulatory costs including the cost of the time consumed by the regulatory process. So-called patent term restoration legislation could also be helpful.

Third, since world markets quickly become essential to high-tech firms, whatever their nationality, the so-called worldwide unitary tax imposed by some States should be eliminated. Indiana has never imposed such taxation. Recent initiatives to eliminate the possibility of this tax in our State are welcome and, as Governor Orr has proposed, should be pursued with vigor in the next State legislative session. Efforts nationally or within the States should be continued to eliminate this inefficient and countergrowth form of disincentive to economic growth in our country.

Finally, with specific reference to the pharmaceutical industry, there is one particular need for Federal legislative action. At present, Federal law prohibits the export, to any country, of human pharmaceuticals and animal antibiotics not approved by the U.S. Food and Drug Administration. Proponents of this prohibition have felt that regulatory constraints in other countries were less rigorous. Unrestrained U.S. exports might, therefore, stimulate the dumping of unsafe or ineffective medicines on an unsuspecting third world. This parochial view that other countries' government agencies are not in a position to judge for themselves what products should be made available to their people has had a negative impact on the United States and Indiana economic growth. It has affected U.S. jobs, the balance of payments, and expansion of the United States and Indiana industry.

A case in point can be made in our own company. Within the next 3 years, we face a capital investment of over $20 million to meet the international demand for one of our agricultural products, approved in many countries but not yet in the United States, while existing capacity lies fallow in Indiana. Other similar cases could be cited. For the past several years proposals have been before the Congress to eliminate this export ban, with no resolution. Such a proposal is before the Congress again, and we are hopeful that, with your support and the support of others, it can pass this year.

Stimulation of the R&D and innovation required for improved productivity of production resources and improved productivity of finished goods and services is, necessarily, an uncertain process in terms of the time path or results and consequences. Decades, rather than months or years, are required to see results. History, however, shows clearly that a reasonably stable economic environment with minimum disincentives for R&D and innovation and operable incentives for the investment of human and physical capital resources will achieve results. The contributions of agrichemicals to agricultural production and of medical instruments and pharmaceuticals to the reduction of the cost of illness prove this conclusively. Such contributions must continue. Indiana's economic environment is conducive to this development. Our Nation's current environment can be improved, but we should keep in mind that it has been among the best in the world.

Thank you.

[The prepared statement of Mr. Virts follows:]

PREPARED STATEMENT OF JOHN R. VIRTS

My name is John Virts and I am the corporate staff economist of Eli Lilly and Company. I appreciate this opportunity to share with you my views on economic development and growth in the state of Indiana, along with this panel of representatives of other high-technology companies. For more than a century in pharmaceuticals, for decades in agrichemicals, and for a decade in medical devices, Eli Lilly and Company has concentrated a very high proportion of its efforts in research and development. Thus, we have been what is now known as a "high-tech" company for longer than any of us can personally remember. We have also been vitally interested in the economy of our state and have worked in many ways to enhance its vitality and its contribution to the quality of life in Indiana and, indeed, the entire country.

Maintaining a climate in which entrepreneurship is attractive to individuals and business organizations is the most important role for government in its efforts to foster economic growth. The growth of individual towns, cities, counties, states, regions, and even nations cannot, and should not, be expected to be constant over time. The so-called "structural shifts" being experienced in the Great Lakes Region--including our state of Indiana--are to be expected. They are the unfortunate consequences of change, which always follow growth achieved through innovation and competition.

In the past several years, the consequences of these basic shifts, in both Indiana and the country, have been intensified by the very necessary--but still incomplete--federal programs to improve the nation's overall possibilities to achieve sustained economic growth--particularly, reduction in inflation. Indiana is recovering. The economic climate has improved. The recently announced joint public and private sector Strategic Economic Development Plan for our state is an important step forward in making us more competitive among states. Our climate of cooperation among government, business, labor, and the general public, as evidenced by this Plan, will continue to be a model for others to emulate. It is, indeed, this sort of action that is needed rather than any form of governmental "Industrial Policy," with its attendant bureaucracy and danger of additional cost with little or no long-run economic benefit.

No state, even Indiana, however, can achieve a desirable level of economic growth unless the federal government's policies and activities are also in line with the economic environmental needs for growth. Three areas of federal policy are fundamental to re-establishing the possibility for our country to grow economically at even a rate of around 3 percent annually, in real terms:

1. Efforts must be continued to reduce even further the rate of price inflation. The aberrations and uncertainties of inflation--even in the range of 4 percent to 6 percent annual rates--are very destructive to saving and investment decisions conducive to growth.

2. The total spending of all government needs to be further reduced, in real terms, relative to the economy's total real output. This is probably the toughest problem our society faces. Even after we have eliminated all possible inefficiencies in government administration of programs, we will still have a problem. The choice between defense and entitlements--which is basic to this problem--is an extremely difficult one. Further deindexation of all entitlements is a partial answer.

3. The costs of government regulation of business activities should be constantly monitored and reduced where possible. This does not mean that we, as a society, need to give up the goals or

the missions of the FDA, EPA, OSHA, or any other such program. What we need is continuing attention to the regulatory mechanisms and the costs of alternative plans.

In terms of more specific suggestions for the attention of Congress, I suggest that the following are important considerations for the remainder of this session and the next:

1. Under no circumstances should we give up the indexation of personal income tax rates. The principle of stabilizing the impact of inflation on our basic tax is extremely important to saving and, thus, investment decisions. In addition, government should not be allowed to benefit from inflation, which only it can create or control.

2. The federal deficit must be reduced and controlled. *If* policies are implemented to reduce federal spending and deficits are still in prospect, then annual surtaxes should be imposed. Such surtaxes should have an impact on all taxpayers in equal percentage terms--for instance,

a multiplier of 1.02 to be applied to the income taxes computed for the tax year.

The economic environmental needs of the high-technology industries, including pharmaceuticals, medical instruments, and agrichemicals, differ, very little from the needs of business and society in general. I would like to call your attention, however, to four areas of special concern:

1. Investment in research and development is a particularly uncertain form of investment but necessary for innovation and productivity growth. A continuation of tax incentives in current federal and Indiana tax law will be a positive force for economic growth in the nation and the state.

2. The impact of the cost of necessary regulation of both R&D and the assessment of resulting products' safety and efficacy should be further reduced. Continuing changes in regulatory mechanisms will be the most efficient means of reducing such regulatory costs, including the cost of the time consumed by the regulatory process. So-called "patent term restoration" legislation could also be helpful.

3. Since world markets quickly become essential to high-tech firms--whatever their nationality--the so-called worldwide "unitary tax" imposed by some states should be eliminated. Indiana has never imposed such taxation. Recent initiatives to eliminate the possibility of this tax in our state are welcome and, as Governor Orr has proposed, should be pursued with vigor in the next state legislative session. Efforts nationally or within the states should be continued to eliminate this inefficient and counter-growth form of disincentive to economic growth in our country.

4. With specific reference to the pharmaceutical industry there is one particular need for federal legislative action. At present, federal law prohibits the export, to any country, of human pharmaceuticals and animal antibiotics not approved by the U.S. Food and Drug Administration. Proponents of this prohibition have felt that regulatory constraints in other countries were less rigorous. Unrestrained U.S. export might, therefore, stimulate the dumping of unsafe or ineffective medicines on an unsuspecting third

world. This parochial view that other countries' government agencies are not in a position to judge for themselves what products should be made available to their people has had a negative impact on U.S. and Indiana economic growth. It has affected U.S. jobs, the balance of payments, and expansion of U.S. and Indiana industry.

A case in point can be made in our own company. Within the next three years we face a capital investment of over twenty million dollars to meet the international demand for one of our agricultural products, approved in many countries but not yet in the U.S., while existing capacity lies fallow in Indiana. Other similar cases could be cited. For the past several years proposals have been before the Congress to eliminate this export ban with no resolution. Such a proposal is before the Congress again and we are hopeful that with your support and the support of others it can pass this year.

Let me say at this point that any comments about the future direction of Indiana's economy would be incomplete without further acknowledgment of Indiana's recently announced Strategic Economic Development Plan. Most of the significant accomplishments in our state and our capital city come about as the result of the very important partnership between the private and government sectors. Last year leaders from business, labor, government, and education formed such a partnership to develop a coordinated approach to the state's economic problems and its economic opportunities. The plan was originally conceived and spearheaded by the State Chamber of Commerce's Growth and Opportunity Council in cooperation with the Department of Commerce under Lieutenant Governor Mutz. The plan is comprehensive, well thought out, and politically sound. Its fifteen related strategies provide for competitive support systems for business and industry, upgrading of basic economic development resources, and assuring sustained leadership of economic development. The strategies range from developing investment packages for expansion, including public and private funding, tax abatement, and loan guarantees, to upgrading education systems and transferring technologies from our universities to private industry. All in all, the plan provides a workable framework for us in Indiana to move ahead and make progress in the vital area of economic development.

Stimulation of the R&D and innovation required for improved productivity of production resources and improved productivity of finished goods and services is, necessarily, an uncertain process in terms of the time path of results and consequences. Decades, rather than months or years, are required to see results. History, however, shows clearly that a reasonably stable economic environment with minimum disincentives for R&D and innovation and operable incentives for the investment of human and physical capital resources, will achieve results. The contributions of agrichemicals to agricultural production and of medical instruments and pharmaceuticals to the reduction of the cost of illness prove this conclusively. Such contributions must continue. Indiana's economic environment is conducive to this development. Our nation's current environment can be improved; but it, too, has been among the best in the world.

Representative HAMILTON. Thank you very much, gentlemen. Let's begin with a question with regard to jobs in high tech. We provide, in this State, about 4 percent of the State's employment, as I understand it, in so-called high tech jobs. But our high technology jobs tend to be in slow-growing fields like radio, television, aircraft, aircraft parts.

We do not produce any goods in high tech where we have a lot of jobs being created, like computers. Now, is high tech an area where we're going to see a lot of growth in the number of jobs in the next decade or so, and if it is, what can we expect and in what areas, specifically? I'll just address the question to the entire panel, and you can answer as you choose.

Mr. VIRTS. I think that's one of the most difficult questions that could possibly be answered, to predict the rate of growth in employment, specifically in high tech. Anything that's based on research and development is, necessarily, uncertain, and you simply can't tell. You don't know what's going to happen to employment.

Another thing that happens in hightech firms is that the research and development itself, sometimes, produces increases in efficiency and output that do not increase the jobs in the high-technology industry itself but, because it adds value to the economy, produces the jobs in vacation areas in the Ozarks or in southern Indiana or something of that nature because it increases income without necessarily increasing the consumption of resource. The consequences, the gains, are felt elsewhere. I think it would be very, very difficult to predict a massive increase in jobs from high technology.

Representative HAMILTON. Do you have any observations, gentlemen? Mr. Silva.

Mr. SILVA. Yes; one of the characteristics of a high-technology industry is that they don't tend to be large, massive employers of people. If you opened a steel mill in Indianapolis, you'd hire several thousand people—well, maybe a modern steel mill wouldn't—but characteristics of high technology are that the amount of product that is produced by each employee is considerably higher than in a normal industry, whatever that might be, but I'll give an example.

There's a company that's looking in Indiana for locations. It's a wafer fabrication company, a microelectronics company. They have a $150 million planned investment, a 100,000 square foot plant. That's a very high ratio of dollars of investment per square foot. Total employment in that 100,000 square foot plant will be a maximum of 225 people. That's low by any kind of conventional measure, but the average wage in the plant is about $33,000 a year, and it's mostly technical and professional.

Where we see the payoff is that when you start to look at the cash flow through that plant, the fact that it sells hundreds of millions of dollars worth of products a year, you ask where does the money go? Well, it has to go someplace, and the answer is there's a whole infrastructure that builds up around it, so high technology industry tends to have a characteristic of inducing ripple effects. I don't look at it as so much a prime employer as I look at it as an economic stimulus that's very, very desirable.

Representative HAMILTON. How important is high tech in the future of Indiana? I'm struck by the fact that when I talk with my colleagues in the Congress, that almost every State, now, is talking about high tech, and they're looking to high technology industries for the future economic growth and well-being of the State. We all identify certain areas of the country that have had great success in high technology. We hear about Silicon Valley and the Research Triangle down in North Carolina and Route 128 around Boston, and I guess Texas, now, has some areas that have great growth in high tech.

Is high tech an area where we, in Indiana, really ought to focus our efforts in terms of economic development? I say that, in part, thinking about the testimony we had this morning. The manufacturing panel told me we're not going to get any new jobs in manufacturing. The panel on services told me we're not going to get any jobs in the services, basically, so I'm still looking here, and I hope you can tell me where these new jobs are going to come from.

Mr. **Holds**. I'll leap into that, Congressman Hamilton, not with anything very specific, but perhaps it's intuitive or at least I feel it intuitively that high tech, while it's become somewhat of a cliche and a buzz word, is tomorrow, and I think for that very reason, that we do have to focus on it, even though we don't know where it's going to take us, and almost all of the processes that we see today that we think of as low tech will be forced into a high tech process within the coming decade or they won't be able to afford the labor content.

So whether it's a high tech product or a high tech process, I do think we do need to focus on that.

Representative **Hamilton**. I concur with that.

Mr. **Silva**. I think a manufacturing industry that does not modernize, that does not become high tech is dead, and perhaps that might be part of the pessimism that was expressed this morning. People feel that, well, we are going to manufacture everything in Japan and the Far East, and then we're going to make our living by selling insurance to each other. I think we've got to keep in front of us that manufacturing forms the economic intestines of this country and that we need to modernize it, expand it, and the only way that we can do that is by building a strong, viable, vital high technology industry in this State.

Representative **Hamilton**. Can you tell us where, in high technology, Indiana would have certain advantages? One person mentioned to me a few weeks ago, for example, he thought there was no reason why Indiana couldn't be one of the leaders in robotics because of the nature of our economic assets in this State. Could you identify areas, particular areas, of high tech that you think would be promising?

Mr. **Virts**. I feel the kind of danger exemplified by Mr. Holds' story at the end of his testimony. It bothers me that we need to think that we have to pick particular directions for stimulus, rather than creating the environment. I would add to the previous statements that it feels to me like we're concentrating, now, on high technology because it has become a buzz word. What we're really talking about is a climate in which people with ideas can get the funds; and then people with research and development efforts can feel like they have a shot at getting through.

We need the kind of environment that literally, we have in this State, and I think employment and competitiveness will come. I think it has come. Professor Silva mentioned that the Delco-Remy organization—and, I think, our company—has been an example of the fact that the environment has been here. I think it really is an economic environment that you need in the midst of educational institutions like Purdue and, if you'll forgive me, I put IU on the same list—maybe that's because that's where I went to school—but, anyhow, those two universities and our other campuses around the State. I think it's here.

Representative HAMILTON. I wasn't trying to suggest by my questions that government either at the State or at the Federal level should direct investments of any kind. I'm just wondering, as you look at the economy of the State today and you think about high technology, what aspects of high technology do you think we have an advantage in? That's really the question. I didn't mean to suggest by that that I thought government ought to direct investment in a particular direction.

Mr. HOLDS. I think the one that John would jump on was medical technology, and I think that with the pharmaceutical industry, that we have a large number of medical instrumentation plants.

Representative HAMILTON. Yes.

Mr. HOLDS. I believe that the number of companies in Indiana——

Mr. VIRTS. The largest medical school in the world——

Mr. HOLDS. The largest medical school in the world—thank you, John—if I were to pick one to say that ought to be at the top of the list, I suppose that would be it. I think there are some 160 companies in Indiana that are involved in either pharmaceuticals or instrumentation that serve the medical industry.

Mr. SILVA. I'd like to throw in a couple of words on this one. I mentioned microelectronics because it's a fundamental industry. It's fundamental high-technology industry, and we have a good start on it. Delco Electronics is the seventh largest semiconducting manufacturer in the world. It's the second largest captive, and it's rapidly——

Representative HAMILTON. Second largest what?

Mr. SILVA. Captive manufacturer. That is, it sells its products only to one customer—well, 98 percent of it to one customer.

Representative HAMILTON. Yes.

Mr. SILVA. IBM is the largest, by the way, so I would point out microelectronics—Indianapolis, incidentally, is famous for its RF technology, radio frequency electronics. There's a lot of that around here. It's a residue of the television industry. Wavetek, IN, is an example of a company that exploited that.

A little story on Wavetek, IN. It's a subsidiary of the headquarters company in San Diego, and it was started as a little garage operation here, oh, 10 years ago, 12 years ago, and now it's the largest division of Wavetek, very successful, and it played upon the strengths that our economy has: biotechnology because of Eli Lilly and other pharmaceutical firms in the State, a lot of software going on in this State—we've got software companies springing up all over the place—and I would like to see a computer industry built up in the State.

Representative **Hamilton**. Is there any start in that direction in the computer industry building up?

Mr. **Silva**. Well, there's a nice little company located in Carmel—I happen to serve on their board—called Microlink, and I think that's a nice little computer company.

Representative **Hamilton**. That is one of the areas that are fastest growing in high tech today and potentially, at least, would have quite a bit of promise, I would think; is that correct?

Mr. **Silva**. Absolutely, because again, it's a fundamental industry.

Representative **Hamilton**. Yes.

Mr. **Silva**. It's no longer just a curiosity or a glamour or a buzz. It's fundamental.

Representative **Hamilton**. Mr. Holds, I noticed your observations about education in your statement and the importance of putting substantial investment into education. Most of the figures show that Indiana is fairly well down the list in investment in education, in terms of spending per capita or by whatever measurement we have. How do you feel about that? Do you sense, from where you sit, that we are putting enough resources in this State into education?

Mr. **Holds**. No, I don't; and yes, we are far down the list in public education. As a result, the private education sector is very busy in Indiana. I think that some fundamental attitudes need to be attacked there and greater expectations, and we need to be very specific about those as to what they are.

We have to increase the quality of education of the teachers to begin with and expect more out of them, but a very good start on all of that, though, is the basic investment that goes into it.

Representative **Hamilton**. Apart from the gifted students—we all recognize how important they are for the future development of any enterprise, not just high tech—how does the educational level in the State strike you in regard to employment in high tech industry? I'm not talking about the geniuses that give you the innovation and the real creativity in any particular industry, but do we, overall, have enough training in the sciences and in mathematics and the like for our public school, private school graduates to give us a good base for a high tech——

Mr. **Holds**. Not in the public schools. In the colleges and the universities, certainly the educational opportunities are there. Probably the crying shame with that is what's been coined the "brain drain" of Indiana where——

Representative **Hamilton**. Yes.

Mr. **Holds** [continuing]. Our brightest and best go from Purdue to California, Texas, or Washington, or wherever.

Representative **Hamilton**. Why is that, Mr. Silva? Why do they leave?

Mr. **Silva**. Well, one reason they leave, in my view, is that they don't have sufficient challenging opportunities here in the State. I have to quote a statistic here, being the quantitative type. In electrical engineering at Purdue, three out of four students, 75 percent of the students in electrical engineering, have homes in the State of Indiana. That is, their home address is in Indiana, and yet, three out of four of them leave the State to take employment, and I've run a survey recently and asked the question, "Why did you leave?" Basically, the answer is, "Couldn't find a job in Indiana."

Then we noticed another trend, and that is that when the children start arriving, there's a strong pull back to the mother lode. That is, there's a significant inward trend. People will change jobs, and after they have the experience, they'll look very, very hard for a job in Indiana, maybe in Illinois or Ohio, to be close to the wife's mother. That's just the way people are.

Representative HAMILTON. So, you're suggesting by that that the brain drain may not be as serious as the statistics initially appear? A lot of those people do come back?

Mr. SILVA. In my view, the brain drain is overemphasized, and it's not so much due to the fact that we have a lousy climate—that's a part of it—but the fact that the challenging opportunities aren't here, and if we grow them, our people will stay here.

Representative HAMILTON. You mentioned—and I think the others have mentioned, as well—the importance of top quality university research facilities and the role that those facilities play in the economic development, particularly in high technology. This may be a loaded question for you, but how strong are Indiana's research facilities particularly in the areas of science, mathematics, and the underlying skills needed for high technology?

Mr. SILVA. Well, a comment on the two flagship universities. Indiana and Purdue—there, I mentioned Indiana.

Mr. VIRTS. Thank you.

Mr. SILVA. Purdue is the largest research institution in the State, public or private. It consistently rates in the top universities in the country. Its academic departments in engineering, pharmacy, chemistry, computers, science, and agriculture—I think I got them all—consistently rate in the top five departments in the Nation. Now, this is a Midwestern university out on the prairie that we're talking about. That is almost a contradiction, but it has happened.

Look at the history of the thing. The fact that the educational missions of Indiana and Purdue were carefully delineated, maybe not by State design—more by jealousy in the beginning—but they were delineated, and we were able to pull all of our resources earmarked for technically oriented education into one university, and it paid off. You go down to Bloomington, and you find a university that has a very good physics department, very good school of music—probably the best in the country—excellent basketball team, but it's not as large a research institution as is Purdue just because of the nature of the curriculum offered there, so I think on a comparison basis, we have first-class facilities, if we don't lose them. We have first-class research facilities in this State at Purdue University, and, to a lesser degree, frankly, at IU.

Mr. VIRTS. I think that if you add the IU medical school and medical research this very much strengthens Professor Silva's observation that this is a very, very strong research institution on any basis worldwide.

Representative HAMILTON. Now, how good are we at this transfer problem that Mr. Holds mentioned in his statement, transferring that technology into the marketplace? Is that an area that we need some help on? You talked, Mr. Silva, about the need for better cooperation, and I'm sure all of us would agree with that. The question is, do we have in place the institutional arrangements to help this transfer problem, or are we getting them into place? Maybe that's the better question.

Mr. HOLDS. Well, I brought it up. I guess I'll start off the discussion on it. No, I don't think it has been very well done. I think it's a very difficult transfer. I don't thing that I would be as sensitive to it if I hadn't seen it applied very efficiently at the Naval Avionics Center where they're involved in applying weapons technologies to systems. The process, then—and in the interest of the taxpayer, by the way—is very important because they take that technology through the engineering and the design and proof of concept and produce prototypes, and through that process, they develop the validated data package with which they can go to private industry, and at the Center, we already knew what that product was going to consist of before we went out for competitive bids because we built it and——

Representative HAMILTON. You built the prototype of it?

Mr. HOLDS. We would build the prototype, even, in some cases, if the need was high, get into limited production until it could get it to mass production, but that's the same type of process that needs to go on by someone, and it's the process that's not going on today at the university level.

Some of the larger private companies—certainly Eli Lilly does an excellent job of technology transfer for their area, but it's that transfer from the university to the practical application where I don't see the process working very well at the present time.

Representative HAMILTON. Why doesn't it work better? Mr. Silva?

Mr. SILVA. If you'll look at the first page of my statement, you'll see that I'm with the Business and Industrial Development Center at Purdue which was started in July 1983, so it's sort of a new activity, and one of the functions of that center is to bring the resources of the university to the benefit and advancement of Indiana's business and industry. It's a six-point program. We help find consultants for private firms when they need advanced technical help. I try to establish research programs, industrially sponsored research programs, through the center. When somebody is looking for technical information, my center tries to get that technical information to them. Very often, technical information developed in the university takes 12 to 18 months to get out into the scholarly literature, and we try to get it out to the people before that.

We have a general technical assistance program. That is, when people need help, technical help, and they can't afford to pay for it, we have a program that enables the university to do it for "free." We also find ourselves, nowadays, in the business of putting investors together with people who have good ideas. It sort of happened by default, but it's an interesting development of this industrial outreach program, as you might call this thing, so Mr. Holds, we haven't been going long enough for you to hear about it, but we are working at it.

Mr. HOLDS. Oh, I know. We've got a piece of the action down here with the Indianapolis growth project, and we're working together on that, and I guess the answer is yes, we're moving in the right direction. Have we been going long enough to have any kind of track record? No, I don't think so.

Representative HAMILTON. This center was started when, in 1983?

Mr. SILVA. Yes; July of 1983. I'm the Ball Brothers professor of engineering at Purdue. I'm a professor of electrical engineering by tenure, but the Ball Brother chair was created by the Ball Brother Foundation in Muncie, IN, and the charter for the chair is sort of interesting. It's one paragraph instead of several pages like many of them are, and it basically says, "The Ball Brothers professor is to develop programs to benefit Indiana industry, and to bring Indiana industry closer to the university and vice-versa." This center was created for that purpose, and it has both private and public funding.

Representative HAMILTON. Are there comparable institutions in the State?

Mr. Silva. You mean other centers?

Representative HAMILTON. YES.

Mr. SILVA. Not quite like it; no. It's the only one right now. My hope is that other universities, especially land grant universities, will establish these. I'm encouraging the University of Illinois, for example, to establish one of these centers. Another statistic, the University of Illinois and Purdue, together, graduate 8 percent of the Nation's electrical engineers. I couldn't turn that one down.

Representative HAMILTON. There was another comment made about the lack of seed capital in this State, and the question came to me, why is it we have a lack of seed capital in this State, and how would you go about correcting that problem?

Mr. HOLDS. Oh, I think that the lack of seed capital says something about the conservative nature of the Hoosier, perhaps that they don't want to put their money that far out on a limb because, certainly, that is the highest risk investment that anyone can make. It's a matter of salesmanship and convincing venture capital groups that one does have a high likelihood or at least a high need of a payoff.

Representative HAMILTON. If you need some venture capital in this State today, where do you go?

Mr. HOLDS. Seed capital?

Representative HAMILTON. Yes

Mr. HOLDS. Out of State, generally.

Representative HAMILTON. Do you?

Mr. HOLDS. I would say. You may know more specifically than that.

Mr. SILVA. At the present time, the Indiana Institute of New Business Ventures which is one of the firms that——

Representative HAMILTON. Yes.

Mr. SILVA [continuing]. Jim was talking about, is investigating the formation of regional seed capital funds around the State. A seed capital fund, by the way, is defined as one that would handle investments of the order of $10,000 to $100,000. A venture capitalist usually doesn't get interested unless he's putting in of the order of $300,000 or $400,000, so that's the difference between seed and venture capital, and you could put together a very respectable seed capital fund with a total pool of about a million dollars, and that would be a very, very effective fund.

If I had a million or two million dollar fund down here in Indianapolis, it could do quite a bit of work. In venture capital firms in this State, the leading one is the Corporation for Innovation Development located across the street—or up the street—$10 million fund, and then there are six SBIC's around the State, so we have a total of seven venture capital funds in Indiana right now, and that's not nearly enough.

Representative HAMILTON. Do we have high-tech industries here that have as a major part of their sales exports? I presume you have that in the pharmaceutical business; don't you Mr. Virts?

Mr. VIRTS. Yes, sir.

Representative HAMILTON. And what percentage of Eli Lilly's business would be exports?

Mr. VIRTS. About one-third.

Representative HAMILTON. That high?

Mr. VIRTS. Yes.

Representative HAMILTON. Are there other high tech industries in the State that have a high percentage of exports as sales?

Mr. VIRTS. Excuse me. About a third of our sales—the pharmaceutical industry does not export to a tremendous extent simply because we have all these restrictions on us.

Representative HAMILTON. You referred to that in your statement.

Mr. VIRTS. Partly. Most countries in the world want an indigenous pharmaceutical industry, and they have all sorts of tariff and nontariff kinds of things. We do not export a tremendous amount, but about a third of our total business is in foreign markets.

Representative HAMILTON. Are there other areas of high tech in the State where we could expect substantial exports? Are you familiar with any?

Mr. SILVA. The best example I can think of on the spot is Ransburg-Cybotech located here in Indianapolis. Ransburg has a plant in Japan. They own the plant in Japan, and that plant has 80 percent of the market of electrostatic paint equipment in Japan, and they have a significant export business, and that's a technologically advanced business. I just can't think of any other. I'd have to look up some stuff.

Representative HAMILTON. We hear so much about the skill of the Japanese in high tech. I'd be interested in your comment, Mr. Silva, about how you assess high technology industries of Indiana relative to their competitors or counterparts in Japan. Do you have any feel for that at all?

Mr. SILVA. Well, the Japanese are very industrious people. They're very bright, and they've been very, very good at taking American technology that we decided not to pick up and run with and developing it into big business and sell it back to us. I have to give them a hand for that. I think the Japanese strengths are in manufacturing technology, in technological evolution, but they're not as strong as we are in true new product innovation. If we would just learn to take on new ideas and exploit them the way the Japanese have, we would be a more formidable economic force.

Representative HAMILTON. But their strength is in their transfer of technology then, more than in creativity and innovation, in your judgment?

Mr. SILVA. Absolutely, yes.

Representative HAMILTON. Mr. Virts—excuse me, go ahead.

Mr. HOLDS. No, I——

Representative HAMILTON. You go right ahead.

Mr. HOLDS. One industry that I think is very important from an export standpoint, and that would be high tech agricultural-type products and that sort of thing.

Representative HAMILTON. Yes.

Mr. HOLDS. Agricultural chemicals and biotech.

Representative HAMILTON. Mr. Virts, I wanted to talk to you about the Federal law that prohibits the export of pharmaceuticals that are not approved by the Food and Drug Administration.

Mr. VIRTS. And any antibiotic, whether it is a human pharmaceutical or an animal product.

Representative HAMILTON. Now, the reason you sometimes hear why you have that law is that we ought not to export something that we can consider unsafe or at least has not been proven safe. What's the response to that?

Mr. VIRTS. The proof of safety and efficacy is clearly a matter of judgment.

Representative HAMILTON. Yes.

Mr. VIRTS. And what we face is many other countries with equally sophisticated regulatory procedures that come to different conclusions than do our regulatory agencies. The question, then, is: If Britain or France or Tunisia, or whoever, has already declared the product to be safe and efficacious and useful to its population, why is the U.S. Government involved in saying that the discovery firm and the manufacturing firm cannot export it? The U.S. laws should say that if a product's sponsor has not demonstrated sufficient safety and efficacy to pass the standards of our regulatory agency, then let's not sell the product in the United States. That's one question. But why forbid the export to countries that have equally sophisticated agencies but with different standards, procedures, maybe different populations, maybe different needs, maybe different whatever?

Representative HAMILTON. Is that ban stopping a lot of sales for Eli Lilly at the present time?

Mr. VIRTS. What it does more than stop sales is it directs where we put our manufacturing plants. I mentioned an example in my testimony, what we'll have to do if we cannot achieve early U.S. regulatory approval.

Representative HAMILTON. I see.

Mr. VIRTS. What we'll have to do if we can't get quick enough approval is that, rather than use existing Indiana facilities and potential Indiana labor, we'll have to construct a duplicative plant somewhere abroad.

Representative HAMILTON. Is the FDA particularly slow—or maybe I should say conservative—in approving drugs as opposed to other, let us say, industrialized nations?

Mr. VIRTS. From my perception, it has been less so in recent years than it was in prior years, but there was a time when we had a 2- to 3-year lag, on the average, in approving our products. We achieved registration 2 or 3 years earlier abroad. Now, I believe the lag is less than that, and it also varies from time to time and from product type to product type; but, yes, there is a drug lag.

Representative **Hamilton**. How many of Eli Lilly's plants are located outside the country now?

Mr. **Virts**. I can't answer that question. We have plants of various kinds in many countries of the world. It's of the magnitude of 18 to 20. If that's of special interest, I can——

Representative **Hamilton**. No, I think the general figure is sufficiently helpful. I don't need it exactly.

Mr. **Virts**. All right.

Representative **Hamilton**. Gentlemen, you've given us some insights into the high tech business in Indiana. You've been very helpful to us, and we appreciate very much your appearance this afternoon before the subcommittee. Thank you.

I'll ask the next panel to come forward if they're here, and we'll begin in about 5 minutes or so with agriculture.

[Whereupon, at 1:55 p.m., the subcommittee recessed, to reconvene at 2 p.m., the same day.]

AGRICULTURE PANEL

Representative **Hamilton**. Well, good afternoon, gentlemen. We're pleased to have you as participants in our final panel here. We've been looking at some of the conditions and problems that exist in the major sectors of the Indiana economy. We're interested in the longer term outlook for jobs and production within our State and your assessment of where our competitive advantages may lie with regard to the sector of economy that you are interested in and have a particular expertise in.

The final panel for the session today is on agriculture. Those that have preceded you talked about manufacturing and services and high technology. Agriculture, of course, is tremendously important to the State of Indiana—we're the ninth largest, I think, agricultural producing State in the country. We're very pleased that you are with us.

This panel consists of Mr. William Dobson, head of the Department of Agricultural Economics, Purdue University; Mr. Philip French, executive vice president, Farm Bureau Cooperatives; and Mr. R.C. Schlader, chief executive officer and president of Federal Land Bank of Louisville and Federal Intermediate Credit Bank of Louisville.

We're very pleased to have each of you with us. We look forward to your comments. Just go down the line. We'll begin with you, Mr. Dobson, and after each of you have had an opportunity to make a few comments, then we will have a few questions for you. Speak right into that microphone, if you would. That would be helpful.

Mr. **Dobson**. I have a larger statement; however, I will confine my comments to approximately 10 minutes as is suggested in the letter of invitation.

Representative **Hamilton**. Your statement, of course, will be made a part of the record in full, and we look forward to your comments.

STATEMENT OF WILLIAM D. DOBSON, HEAD, DEPARTMENT OF AGRICULTURAL ECONOMICS, PURDUE UNIVERSITY

Mr. Dobson. Thank you. I'm pleased to have the opportunity to discuss the economic prospects for Indiana's agricultural sector with you, Mr. Chairman. My brief comments will focus on how comparative advantage and related forces have changed the Indiana farming and agricultural business sectors; second, chief factors that will influence the growth of Indiana agricultural businesses and farms; third, actions by the public and private sectors that could strengthen Indiana's agricultural economy in the years ahead.

Let's first consider how comparative advantage and other economic forces have changed Indiana's agricultural sector. Forces relating to comparative advantage and product prices have changed the composition of farm products produced and processed in Indiana over time. Indiana farmers increased cash grain and soybean production and reduced livestock production during the 1960 to 1982 period. In 1960, they obtained about 38 percent of their cash receipts from the sale of cash grain and soybeans while in 1982, the comparable figure was 62 percent. The reduction in livestock production in Indiana and elsewhere in the eastern Corn Belt reflects the effects of advantages enjoyed by western Corn Belt and southwestern U.S. livestock feeders over those in the eastern Corn Belt, including lower feed grain prices. On the other hand, farmers in the eastern Corn Belt during 1960 to 1982 enjoyed relatively higher grain and soybean prices partly because of better access to gulf ports, eastern ports, and Great Lakes ports.

The livestock slaughtering industry—especially cattle slaughtering plants—also shifted westward. The shift by hog slaughtering has not been uniform across the eastern Corn Belt States. Indiana has lost substantially more hog slaughtering business than any other State in the region. Michigan was the big gainer.

Purdue agricultural economists C. Hurt, J. Brandt, and D. Petritz suggest that the production and slaughter figures have the following implications for economic development efforts aimed at restoring the livestock slaughtering business to higher levels in Indiana, and I quote:

> The State's cattle industry is characterized by many producers with a small average herd size. The low density of production means that the cost of originating large volumes of cattle for a cost efficient slaughter plant will be high. Hog production does not have the same density problems experienced by cattle. Currently, enough hogs are shipped out of Indiana to keep at least two additional cost-efficient plants in operation within the State. However, production in the eastern Corn Belt is about balanced with slaughter. Thus, if new hog slaughtering capacity did locate in the State, it would likely result in slaughter reductions in some existing plants in the region.

The preceding material identifies or at least hints at some major changes that have occurred in Indiana's farm and agricultural business sectors in recent years which may be summarized as follows: One, Indiana farmers have become heavily dependent upon cash grain and soybeans—major export crops—for their income. Income from foreign sales account for 33 to 40 percent of Indiana's gross farm income.

Livestock production and livestock slaughter have become less important as sources of economic activity in Indiana.

Indiana's agricultural businesses presently tend to emphasize the marketing of unprocessed products and first-stage processing activities rather than downstream, higher value processing activities. Hence, Indiana's contribution to total value added in food processing has been characterized as being abnormally low.

Now, what would be some possible economic impacts of increased livestock slaughter and food processing activity in Indiana? Some answers to this important question are suggested by the sales multipliers and employment multipliers obtained by Purdue agricultural economists Tom Hertel and Lance McKenzie in a study conducted using a 214 sector input-output model of the Indiana economy, and I'll briefly summarize the results as follows: Their results suggest the value of supporting the potential for selling more processed as opposed to raw agricultural products from the State. The chief factors that will influence growth of Indiana agricultural businesses and farms—economic growth is a modern holy grail that is pursued by many, but economists, at least, don't have a good grasp of the factors which strongly influence economic growth. Nonetheless, I will give some hopefully informed speculation on the factors that might promote economic growth in the State's agricultural processing businesses and farms.

Factors that might foster growth of Indiana agricultural processing firms include the following: First, given the nature of hog production in Indiana and the sales and employment multipliers described earlier, increased hog slaughtering and processing activity appears to represent an attractive vehicle for increasing sales and employment in the State. Second, research and development to increase markets for processed corn and soy products represent a possibility for fostering growth; in particular, efforts to make corn gluten and soy products more readily usable for human consumption have promise. These conclusions are based on work that my department has entered into in conjunction with food scientists at Purdue University.

Third, lower interest rates: The future growth and well-being of Indiana farmers will be affected by the current financial situation. All is not well on Indiana farms, although on average, Hoosier farmers are not as bad off financially as farmers in Iowa, Nebraska, Minnesota, and Wisconsin. In Indiana, beginning farmers who are carrying large amounts of debt and farmers who bought high-priced land on credit during the late 1970's are generally experiencing the most financial difficulty. Also, some Hoosier farmers who opted not to participate in the Payment-In-Kind Program and who were hard hit by the 1983 drought are having financial problems. Perhaps 2 to 3 percent of Indiana farmers will find it necessary to sell some assets within the next year to make payments on their loans.

Fourth, public and private sector actions to strengthen Indiana's economy: It might be useful for researchers in the School of Agriculture at Purdue University, with advice from the private sector, to examine the feasibility of increasing use of corn gluten and soy products for human food. Federal support for such research could be helpful. Also, studies to examine the possibility of increasing the amount of hog slaughtering, meat processing, and corn and soybean processing that is carried out within Indiana might be conducted by a consortium of State agencies, universities, and private firms.

The farm financial situation needs to be monitored carefully. Among other things, this monitoring effort might forestall ill-conceived debt restructuring proposals as well as ensure that adequate credit is obtained by farmers who have a reasonable chance of repaying loans.

Farmers claim that they've been victimized by macroeconomic policies that subject them to unreasonable financial stresses, given their sensitivity to high interest rates and strong dependence upon export markets, and that they deserve compensation in the form of farm program payments. In my judgment, these are not frivolous arguments. An important step toward reducing the problems complained of would be to reduce Federal deficits substantially.

I will summarize as follows: This brief statement makes three main points. First, in recent decades, Indiana farmers have increased production of cash grain and soybeans and reduced production of livestock products. A large proportion of the grain and soybeans is sold in foreign markets or shipped out of the State for processing. These developments have reduced the contribution to value added in production in Indiana.

Expanding food processing may represent a promising way of increasing the value added to farm products in Indiana and hence increase economic activity and employment within the State.

Finally, a substantial reduction in the Federal deficits can help to reduce interest rates, lessen farm problems, and expand farm exports.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Dobson follows:]

PREPARED STATEMENT OF WILLIAM D. DOBSON

Economic Prospects for Indiana's Agricultural Sector

I am pleased to have the opportunity to discuss the economic prospects for Indiana's agricultural sector with members of the Subcommittee on Economic Goals and Intergovernmental Policy of the Joint Economic Committee of the U.S. Congress. My brief comments will focus on (1) how comparative advantage and related forces have changed the Indiana farming and agricultural business sectors, (2) chief factors that will influence the growth of Indiana agricultural businesses and farms, (3) and actions by the public and private sectors that could strengthen Indiana's agricultural economy in the years ahead.

How Comparative Advantage and Other Economic Forces Have Changed Indiana's Agricultural Sector[1]

Forces relating to comparative advantage and product prices have changed the composition of farm products produced and processed in Indiana over time. As noted in Table 1, Indiana farmers increased cash grain and soybean production and reduced livestock production during 1960-1982. In 1960, they obtained about 38% of their cash receipts from sale of cash grain and soybeans while in 1982 the comparable figure was 62%. The reduction in livestock production in Indiana and elsewhere in the Eastern Corn Belt[2]

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[1] This section draws heavily on the following publications: Hurt, Chris, Jon Brandt, and David Petritz [3], and Hertel, Thomas W. and Lance McKinzie [2]. Numbers in brackets identify publications appearing in the reference list at the end of the statement.

[2] The Eastern Corn Belt consists of Indiana, Illinois, Michigan, Ohio, and Kentucky.

Table 1. Indiana Farm Cash Receipts by Commodity, 1960 and 1982.[a]

Commodity	Value in 1960 ($ million)	Percent of Total	Value in 1982 ($ million)	Percent of Total
Corn	$ 153.89	13.7%	$1,436.26	31.3%
Soybeans	131.21	11.7%	1,029.43	22.5%
Wheat	60.69	5.4%	136.30	3.0%
Other Crops	75.81	6.7%	221.25	4.8%
Hogs	270.77	24.1%	790.79	17.2%
Cattle and Calves	190.46	17.0%	344.15	7.5%
Milk	120.60	10.7%	312.80	6.8%
Poultry and Eggs	92.19	8.2%	305.26	6.7%
Other Livestock	27.86	2.5%	10.14	.2%
Total	$1,123.48	100.0%	$4,586.38	100.0%

[a] Source: Indiana Crop and Livestock Statistics [6,7].

reflects the effects of advantages enjoyed by Western Corn Belt and Southwestern U.S. livestock feeders over those in the Eastern Corn Belt, including lower feed grain prices, better access to feeder cattle, drier climates, and other conditions that permitted them to establish larger, lower-cost cattle feeding operations. On the other hand, farmers in the Eastern Corn Belt during 1960-1982 enjoyed relatively higher grain and soybean prices partly because of better access to Gulf ports, Eastern ports, and Great Lakes ports.

The livestock slaughtering industry -- especially cattle slaughtering plants -- also has shifted westward. But, as suggested by Table 2, the shift by hog slaughtering has not been uniform across the Eastern Corn Belt states. Indiana has lost substantially more hog slaughtering business than any other state in the region. Michigan was the big gainer.

Table 2. Slaughter Data for Eastern Corn Belt States, 1960 and 1982.[a]

State	Hogs			Cattle and Calves		
	1960	1982	Change	1960	1982	Change
	Million Pounds			Million Pounds		
Indiana	1,219	670	- 45%	677	367	- 46%
Illinois	1,302	1,753	+ 35%	1,547	1,015	- 34%
Michigan	354	1,261	+ 256%	802	665	- 17%
Ohio	1,001	986	- 1%	1,193	702	- 41%
Kentucky	336	557	+ 66%	182	166	- 9%

[a] Source: Hurt, Chris, Jon Brandt, and David Petritz [3].

Purdue Agricultural Economists, C. Hurt, J. Brandt, and D. Petritz suggest that the production and slaughter figures have the following implications for economic development efforts aimed at restoring the livestock slaughter to higher levels in Indiana [3, p. 6]:

> "The state's cattle industry is characterized by many producers with a small average herd (or feedlot) size. The low density of production means that the cost of originating large volumes of cattle for a cost efficient slaughter plant will be high. Thus, the higher origination and labor costs (wage rates) in the Eastern Corn Belt must be offset by lower transportation cost to final consumers. . . .
>
> Hog production does not have the same density problems experienced by cattle. Currently, enough hogs are shipped out of Indiana to keep at least two additional cost efficient plants in operation within the state. However, production in the Eastern Corn Belt is about balanced with slaughter. Thus, if new hog slaughtering capacity did locate in the state, it would likely result in slaughter reductions in some existing plants in the region."

Major Economic Changes. The preceding material identifies and hints at some major changes that have occurred in Indiana's farm and agricultural business sectors in recent years, which may be summarized as follows:

1. Indiana's farmers have become heavily dependent upon cash grain and soybeans -- major export crops -- for their incomes. Income from foreign sales account for 33% to 40% of Indiana's gross farm income [5].
2. Livestock production and livestock slaughter have become less important as sources of economic activity in Indiana.
3. Indiana's agricultural businesses presently tend to emphasize the marketing of unprocessed products and first-stage processing activities rather than "downstream", higher-valued processing activities. Hence, Indiana's contribution to total value added in food processing has been characterized as being abnormally low.

Results of Input-Output Study. What would be some possible economic impacts of increasing livestock slaughter and food processing activity in Indiana? Some answers to this important question are suggested by the "sales multipliers" and "employment multipliers" obtained by Purdue Agricultural Economists T. Hertel and L. McKenzie in a study conducted using a 214 sector input-output model of the Indiana economy. These multipliers are described below.

The total direct and indirect effect on output in the Indiana economy when, for example, the demand for fats and oils changes is captured by a sales multiplier. The sales multiplier for fats and oils is 2.22, indicating that every 1 dollar increase in demand for that sector's output stimulates a total of $2.22 of output throughout the economy. As noted in Table 3 which contains sales multipliers for selected Indiana agricultural sectors, processed products tend to have larger multipliers because the demand stimulus is channeled back through a larger number of sectors. If the processing industry imports its raw inputs, then the Indiana sales multiplier

Table 3. Indiana Sales Multipliers.[a]

Sector of Origin	Sales Multipliers
Meat processing	2.96
Poultry dressing	2.84
Sausages and other	2.67
Poultry and eggs	2.57
Blended flour	2.56
Prepared feeds	2.51
Meat animals	2.46
Fats and oils	2.22
Flour	1.98
Wet corn milling	1.91
Grains	1.51
Soybeans	1.39

[a] Source: Hertel, Thomas W. and Lance McKinzie [2].

will be diminished. But, agriculture represents an important primary production activity in the State, because its raw materials tend to be largely local in origin. Thus, agricultural processing activities exhibit some of the largest sales multipliers of all manufacturing sectors in Indiana.

Sectors involved in the processing of livestock products have the highest sales multipliers (Table 3). This is because Indiana grows the corn, which is fed to the hogs, which are in turn slaughtered and processed. Thus the backward linkages are extensive. An additional 1 dollar of final demand for meat processed in Indiana, generates almost $3 of additional economic activity throughout the state's economy. By contrast, an additional $1 of grain (a primary commodity) delivered to final demand is expected to generate a total sales increase of $1.50.

Employment multipliers measure the increase in economy-wide employment in Indiana resulting from the creation of an additional job in a given sector. It is assumed that new jobs result from an increase in the final demand for that sector's output.

Employment multipliers obtained by Hertel and McKenzie for selected sectors appear in Table 4. Processing sectors exhibit larger multipliers. They tend to stimulate more sales for other sectors than do primary production activities. For example, an increase in the sales of fats and oils, such that one job is created in that processing sector, can be expected to generate an additional 4.19 jobs elsewhere in the state. These jobs are created, among other places, in the production of soybeans for processing. By contrast, the soybean production sector has an employment multiplier of only 1.42. These results suggest the value of exploring

Table 4. Employment Multipliers for Selected Sectors in Indiana.[a]

Sector	Multipliers
Fats and oils	5.19
Blended flour	3.45
Wet corn milling	3.23
Prepared feeds	2.58
Flour	2.19
Grain production	1.58
Soybean production	1.42
Meat packing	3.90
Sausages and other	3.63
Meat animals	2.83
Poultry dressing	2.51
Poultry and eggs	2.14

[a] Source: Hertel, Thomas W. and Lance McKinzie [2].

the potential for selling more processed, as opposed to raw, agricultural products from the State. Research by Brown and Loose suggests that employment in such processed food firms is approximately as stable as in all industries in the State as a whole [1].

Chief Factors That Will Influence Growth of Indiana Agricultural Businesses and Farms

Economic growth is a modern holy grail that is pursued by many. But economists, at least, don't have a good grasp of the factors which strongly influence economic growth. Nonetheless, I will give some hopefully informed speculation on the factors that might promote economic growth of the State's agricultural processing businesses and farms.

Factors that might foster growth of Indiana agricultural processing firms include the following:

1. Given the nature of hog production in Indiana and the sales and employment multipliers described earlier, increased hog slaughtering and processing activity appears to represent an attractive vehicle for increasing sales and employment in the state. However, hog slaughtering plants in many U.S. locations are experiencing strong competitive pressures and must keep costs down if they are to survive and grow. Hence, among other things, restrained wage demands on the part of workers employed at existing and new slaughtering plants might be necessary if growth of hog slaughtering is to occur in the State.
2. Research and development to increase markets for processed corn and soy products -- e.g., efforts to make corn gluten and soy products more readily usable for human consumption.

3. Persistence of an attitude on the part of state and local governments that makes existing and new firms feel welcome.
4. A well-trained labor force.
5. Lower interest rates.
6. Tax breaks for businesses which exceed those given by other states. Attempting to provide such breaks is admittedly a perilous undertaking.
7. Adequate infrastructure -- e.g., good telephone service, competitive utility rates, and roads and bridges that are kept in good repair.

In recent decades, Indiana farms have grown in size and have become generally efficient and innovative. Hoosier farmers have become efficient partly because they have adopted the findings and advice of researchers and extension workers at Purdue and other Land Grant Universities and that provided by the private sector. An interrupted stream of new technology and technical advice would help them to remain efficient.

In addition, the future growth and well-being of Indiana farmers will be affected by the current financial situation. All is not well on Indiana farms, although, on average, Hoosier farmers are not as bad off financially as farmers in Iowa, Nebraska, Minnesota, and Wisconsin. In Indiana, beginning farmers who are carrying large amounts of debt and farmers who bought high-priced land on credit during the late 1970s are generally experiencing the most financial difficulty. Also some Hoosier farmers who opted not to participate in the PIK program and who were hit hard by the 1983 drought are having financial problems. Perhaps 2 to 3 percent of Indiana farmers will find it necessary to sell some assets within the next year to make payments on their loans. This development is the result of a complex set of forces, including high interest rates and depressed export demand for farm products.

Public and Private Sector Actions to Strengthen Indiana's Economy

Joint actions by the public and private sectors could help to promote economic development in Indiana's agricultural sector. For instance, it might be useful for researchers in the School of Agriculture at Purdue University -- with advice from the private sector -- to examine the feasibility of increasing use of corn gluten and soy products for human food. Federal support for such research would be helpful. Also, studies to examine the possibility of increasing the amount of hog slaughtering, meat processing, and corn and soybean processing that is carried out within Indiana might be conducted by a consortium of state agencies, universities, and private firms. This is by no means an exhaustive list, but it suggests types of economic activity that would increase the amount of economic value added within Indiana.

The farm financial situation needs to be monitored carefully by bankers, officials of Federal Land Banks and Production Credit Associations, officials of government agencies (state and federal) and university extension workers to ensure that Hoosier farmers obtain appropriate amounts of credit and advice during the present period of financial stress. Among other things, this monitoring effort might forestall ill-conceived debt restructuring proposals as well as ensure that adequate credit is obtained by farmers who have a reasonable chance of repaying the loans.

Finally, as noted earlier, farming in Indiana is a capital intensive, interest sensitive sector that depends heavily on foreign exports for income. The problems being experienced by farmers are traceable partly to the federal deficits, which produce high interest rates and a dollar so strong that it substantially curtails farm exports. For example, the USDA estimates that, on a trade weighted basis, the real value of the dollar appreciated nearly 30% for imports of U.S. corn and more than 15% for U.S. wheat from 1980 to 1983 and that the strong dollar cut the value of U.S. agricultural exports by about $6 billion during 1982-83 [4, p. L-177].

Farmers claim that they have been victimized by macroeconomic policies that subject them to unreasonable financial stresses given their sensitivity to high interest rates and strong dependence upon export markets and that they deserve compensation in the form of farm program payments. In my judgment, this is not a frivolous argument. Clearly, an important first step toward reducing the problems complained of would be to reduce federal deficits substantially.

Summary

This brief statement makes three main points:

1. In recent decades, Indiana farmers have increased production of cash grain and soybeans and reduced production of livestock products. A large proportion of the grain and soybeans is sold in foreign markets or shipped out of the state for processing. These developments have reduced the contribution to value added in production in Indiana.
2. Expanding food processing (e.g., hog slaughtering, increased processing of corn and soy products) may represent a promising way of increasing the value added to farm products in Indiana and hence increase economic activity and employment within the state.

3. A substantial reduction in federal deficits could help to reduce interest rates, lessen farm financial problems and expand farm exports.

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Representative **Hamilton**. Mr. Dobson, thank you, sir. That's a good start for us. Mr. French.

STATEMENT OF PHILIP FRENCH, EXECUTIVE VICE PRESIDENT, FARM BUREAU COOPERATIVES

Mr. **French**. I appreciate, again, the opportunity to meet with this group, and certainly, the title of the Joint Economic Committee fits the real world in which we live today with great concerns on economic goals and also on intergovernmental policy, and my report's going to be made from notes which I'll be glad to share with you from the meeting, but I did not prepare a written statement.

Representative **Hamilton**. We have a transcription being made, Mr. French.

Mr. **French**. OK; that will solve the problem.

Representative **Hamilton**. That will be helpful.

Mr. **French**. I thought I'd take a couple minutes to help you understand the organization I represent and build into that, the great concerns we have in the area you're discussing here today.

We're a federation of 69 local cooperatives in Indiana. We're the fourth largest corporation based in the State of Indiana, and we're the 12th largest U.S. grain company in terms of grain storage operated. We have about $130 million committed to the grain business. We're in the international grain business with export terminals at Chicago on the St. Lawrence and at Baltimore, MD on the Atlantic port. We have river facilities for export at Cincinnati and Louisville and then inland terminals to back up those facilities at Indianapolis and Logansport and Princeton.

In a normal year, whatever that is, we handle about 200 million bushels of grain. Our Indiana farmers, as Professor Dobson indicated, export about 1 of 3 acres of production. The grain we handle, we export 1 out of 2 bushels that we buy from those farmers. As we look at the impact of international trade in the total U.S. economy, exports amount to about 10 percent of the GNP, but in agriculture, they really amount to 50 percent, so international trade is of much more significance to agriculture than the economy as a whole.

I think that farmers and agribusiness really have moved into that global village of a world economy, and that's part of the concern of farmers, that there be Government programs to help protect them in that very difficult world.

I'm going to use some information that's generally contained within a corporation during its fiscal year, but I think we have to illustrate the impact of programs like last year's PIK Program and the weather and the high U.S. dollar and what do they do to business that's dealing with and for farmers. If we look at last year's corn crop compared to the year before, we had about 42 percent as much corn produced last year as the year before and about 67 percent as many soybeans. In the United States, our corn crop was just half of what it was in 1982 with 29 percent fewer acres and then 29 percent lower yield from those fewer acres, so we got that tremendous effect of less acres and less yield. While the U.S. exports this year have been maintained, we've had a tremendous shift in where those exports are made, and the shift has been to the west coast due to transportation advantages and due to the fact that the surplus grain wound up in the Western Corn Belt. The Eastern Corn Belt has been, generally, a void area.

Financial impact upon our business, for example, in 1982, we loaded 81 ships for export out of Baltimore. This year, we'll load nine, and about half of those ships will be barley that's been brought in from the Dakotas and Minnesota just to give us some turnover volume.

Profitwise, the grain business has been a very difficult business. Last year, for 6 months, we showed $2.4 million of profit. This year, that same period, we show a loss of $4.8 million. That's about a $7 million turnaround, and we think for the fiscal year ending in August, we'll have a drop of about $15 million in net earnings from the grain business compared to the year before. Our local co-ops like the ones in your own district who handle grain will reflect those same kinds of numbers.

I've moved back and looked at this in a people effect as well as an economic effect, and I think in our own organization, we have now about 75 people in our grain operations who are laid off for the season, and you think in terms of those people as not people who invaded Afghanistan or people who did not participate in the PIK Program, but they are simply victims of those circumstances, and as we look at January of 1980 which is kind of a pivotal point in agriculture, when we punished the Russians for invading Afghanistan by denying them grain, those who really suffered have been our own farmers and beyond them, their coworkers in agribusiness who, a lot of times, are forgotten in the programs that Mr. Dobson has discussed.

Really, when we develop programs such as the PIK Program or its predecessors for the last many years, and we try to adjust U.S. production, farmers and agribusinesses in Europe and Canada and South America tend to thrive as a result of the things we do. They thrive from the embargo. They expanded production in 1983 when we cut back production. So while we pay farmers not to produce, it's a fact that other countries subsidize their exports to maximize production, and in effect, in 1983, we stopped exporting farm products and started exporting farmers and agribusiness.

I just returned yesterday from Western Germany from meetings in Hamburg that includes The Netherlands, France, and Germany, and you can see that different philosophy they have in terms of their agricultural programs which are more—not welfare programs but programs to keep their farmers involved in agriculture and not part of their own employment problem, and the price they're willing to pay to do that, which is a totally different program than our approach here in the United States.

Agribusiness employs over 23 million people in the United States. That's about 22 percent of our total employment, and it accounts for about 20 percent of the domestic economy, so we're talking about a big sector of the total U.S. economy that really is in serious trouble. Even though it's able to compete worldwide, it cannot do it under the present programs we've been using. We feel that Congress should make an economic impact study before future programs such as the PIK Program of last year or similar programs are developed so that the economic impact on agribusiness could be determined before the act. Otherwise, it s conceivable that Government will have to, eventually, own that entire infrastructure that supports agriculture.

In terms of production and marketing, we are simply squeezing almost everyone out of the business in the process we've been going through, so we feel that the economic impact studies should be made far beyond just the farming itself. Farming is, certainly, the most important segment. That's where it all starts, but an economic impact study ought to be made before we take on these major programs and really shock that whole infrastructure.

We feel that we should not come and talk to you just about what's the problem, but we ought to talk about possible solutions to the problem. I think one solution is the development of a market-oriented agricultural policy. As we write this 1985 farm bill, we need to send a significant message to the rest of the world that the United States will not forever retreat from world agricultural markets but that we are going to become market oriented. I think, too, that we ought to consider investing and developing future markets. The African market is a good example, and the Mideast. Those markets that need help in developing their economies will be good customers in the future for U.S. ag production. And we need an investment on behalf of agriculture in competing for world markets so that our farmers don't compete against the governments of the Common Market or of Brazil and Argentina or Canada.

We need to give our farmers and our agribusiness an opportunity to compete, and I don't believe that we should raise a U.S. umbrella over competing farmers in the other countries, which we do with our farm programs. When we cut our production and raise world prices, again, they tend to increase their production and take advantage of that increased world price, so when we want to help farmers—and there certainly are groups of farmers who need our help—from the Government level, I think we ought to do it in a way that does not get interpreted into the price of worldwide commodities.

I think that U.S. investments in agricultural sales and exports will stimulate agriculture production and have a ripple effect to the world economy and to the Indiana economy. Investments to help us sell our production will cause farmers to continue to produce at a reasonable level, and when they do this, then agribusiness and the Indiana economy as a whole benefits. When we pay farmers not to produce, then we cut off a lot of their production investment. They, generally, will use that capital perhaps to pay Mr. Schlader's bank or others, but we don't get the ripple effect that we get if we're able to market the product.

I guess if I could state it simply and using good, clean hindsight here, a fraction of the PIK dollars might have done more good if they'd been invested in exports rather than nonproduction. The 1985 farm bill that you're working on now for the next several months probably is the most important one, the most important piece of legislation that's affecting farmers and agribusiness for years to come. Hopefully, it's a pivotal piece of legislation and that we're going to turn the corner. If that new farm bill continues to use supply management to increase farmers' income rather than a market-oriented approach, then you in agriculture and all of us who depend on it, have some very serious problems. If we're going to continue the approach of managing our supply rather than trying to help market our production—we have a tremendous overcapacity in this country, and that's going to be a very serious shakeout.

I think, simply stated, reducing grain production to enhance farmers' income probably is not workable in today's world if we're the only ones making that effort. That's really the key issue here. If other countries are taking different approaches, if we're the only ones cutting back production, then it will be only our farmers and our economy that will suffer. There's certainly a transition period where farmer incomes are going to have to be protected while moving from supply/managed to a market-oriented ag policy. If there's going to be any significant growth in grain production in this country or even if we're going to maintain our present production, we've got to find new methods to provide income support for farmers in a manner that increases our exports rather than forcing the United States to become the residual supplier of world trade.

I learned this week in Germany that Russia, for example, is probably going to suffer their sixth consecutive poor crop. Six years in a row, they've had a poor crop. Since 1980, our Indiana farmer really has been preempted from that market opportunity, and I'm not trying to judge, the embargo, the right or the wrong of the embargo, but simply saying on an economic basis, he's been preempted from filling the gap from the Russian bad crops. We feel that we need to separate farm income maintenance from our general farm policy so that we don't set high prices to encourage the rest of the world to produce more.

And finally, Mr. Dobson has indicated the deficit and certainly the Government spending that creates the deficit have to be curbed to bring our interest rates and the value of our U.S. dollar back in line to help us compete in world markets. Thank you.

Representative **Hamilton**. Thank you, Mr. French. We'll conclude the testimony from you, Mr. Schlader.

STATEMENT OF R.C. SCHLADER, PRESIDENT AND CHIEF EXECUTIVE OFFICER, FEDERAL LAND BANK OF LOUISVILLE AND FEDERAL INTERMEDIATE CREDIT BANK OF LOUISVILLE

Mr. **Schlader**. Thank you, Congressman. It's indeed a privilege to represent the Farm Credit System at this important hearing. As you're well aware, the past 4 years have been very difficult ones for Indiana farmers. Net income has been rather elusive. Many farmers are experiencing cash flow problems. The margin between commodity prices and input costs has been small. These factors, coupled with record-high interest rates, have contributed to a generally weakened farm economy.

To further compound the problem for some farmers, yields have been substantially reduced as a result of unfavorable weather conditions. In fact, all 92 counties in Indiana were placed on emergency status as a result of last year's drought.

In light of this rather bleak overview, I will elaborate on some of the factors which have contributed to a troubled farm economy in Indiana. Unfortunately, prices reflect supply and demand relationships. Even with the various Government programs designed to either curtail production or support a reasonable level of prices, the production by American farmers has far outstripped domestic demand. This has been true for a number of years now, and yet, we have not even approached the production capacity of our farmers.

Some say our farmers are too efficient for their own good. I disagree. Certainly, they tend to produce more than is needed domestically, but efficiency of operations is not the problem. The problems are: Cost of capital items, real property and machinery; input costs, chemicals, fertilizers, fuel, machinery costs, et cetera; interest costs on borrowed capital; and low prices received for their production. In this context, I am talking about the good farmers, those who do run efficient operations.

The results are again low profitability; cash flow problems; in many cases, debt service problems, and in some cases, liquidation. You may ask, "Are more Government programs the answer to the problems?" No, but I will expand more on that later.

Since we can do little about input costs, I will restrict my comments to those elements over which I think we can, at least, have some influence: Interest rates and commodity prices. The principal factor causing high interest rates, in my judgment, is deficit spending in enormous amount by our Federal Government. It is reported that last year, the U.S. Treasury took approximately 35 percent of fixed income investable funds from the public market. With such competition for public funds, the interest rate will not only remain high, but will probably move higher. This appears to be a dilemma we will have to live with as long as the overall economy continues to improve and there is a threat of another round of higher inflation.

Even if the general economy turns down, according to our most recent experiences, interest rates will remain high by historical standards as long as our fiscal policy remains unsound. High interest rates are like a double-edged sword to our American farmers.

Twelve to fourteen percent interest rates are enough to put highly leveraged farmers out of business. It causes financial stress for good operators, even those in a strong equity position. In the current environment, a farmer needs at least 70 percent equity in his operation to remain economically stable. So what appears to be a necessity for the ag economy to recover is lower interest rates, and I have singled out our Government spending policy as the main obstacle to us achieving that objective.

The other side of the sword is the impact high interest rates are having on foreign sales. Since interest rates have been so high in this country, our export market has continued to decline. High interest rates and the resulting price of the dollar in relation to foreign currencies have had a dramatic impact on foreign sales. The conversion ratio has helped price our American products out of the market. Obviously, reduced exports negatively impact the supply and demand balance. Compounding the surplus problem and maintaining downward pressure on commodity prices. I submit to you, gentlemen, that with these adverse factors, our American farmers are going to have a tough time recovering even with good crops.

I'm sure you realize that Indiana farmers, are no different from others across the country. As a matter of fact, with their strong orientation toward cash-grain and swine operations, the negative impact may be more severe than the average farmer's across the country.

What about Government programs? Historically, they have not been long-term solutions to the farmers' woes. While this is certainly debatable, they have too often been referred to as "quick-fix," "Band-Aid" approaches. Also, too many times it appears that the real benefits do not accrue to those for whom they were designed.

Let me say that in my judgment, the U.S. Treasury cannot financially underwrite the agricultural industry. The Government can and must, however, help the industry through a transition period, by price stabilization programs, toward more of a free market environment. Time will not permit specifics, but we must start now, as work begins on our 1985 farm policy, to strategically plan for the longer term. To the extent we can, we must get away from year-to-year programs, programs such as payment-in-kind.

I would like to return to interest rates for a minute. First, let me begin by saying that the debt/asset ratio of farmers is continuing to deteriorate. This problem is aggravated by low operating profits and weak real estate prices. I'm sure you will agree, based on recent evidence, farmers cannot pay 12 percent-plus interest rates and remain solvent if they are highly leveraged. Such highly leveraged farmers with heavy debt loads are having difficulty servicing their existing debts and obtaining funds to cover their operating expenses. This situation is not necessarily the result of financial institutions changing their lending policies. The farmers' inability to secure funds to meet operating expenses results primarily from their inability to meet traditional, sound loan standards.

Such economic problems have been building since 1980 when interest rates soared, inflation began to decline, and commodity prices weakened. Tens of thousands of farmers who had borrowed against the growth pattern of the 1970's were caught in a severe cash flow squeeze. Some of these same farmers are now showing up in the farm-failure statistics.

Let me clarify a possible misconception, however, about farm failures in the State. As a representative of the Nation's largest agricultural lender, the Farm Credit System, I am pleased to report our statistics show that only a relatively small percentage—approximately 2 percent of our borrowers—have the kind of serious financial problems that will force a major restructuring of their business or discontinuance of their land bank or PCA service at this point. Even in such cases, our banks, as well most agricultural lenders, are trying to help the over-leveraged farmer work out his financial problems. It may involve various forms of loan servicing treatments such as reamortization, refinancing, or deferment of principal or partial release. The Farm Credit System is certainly working with our farmers as best we can in such a way that will not jeopardize the financial integrity of the system

Our district's philosophy is, and always will be, to service all loans fairly and equitably. Loan servicing, of course, cannot impose an undue risk to the bank and the other farmers who own it. Again, the financial integrity of the system must be preserved, but the banks and associations must make every effort, utilizing our credit expertise and innovative programs, to see individual farmers through these troubled times.

Foreclosure is absolutely the last resort, and even in the small number of cases where there has been the need for the over leveraged farmer to liquidate, our banks and associations have continued to work with him when possible and economically feasible through an arrangement that enables him to stay on the farm under a cash/rent, crop sharing or lease arrangement.

While the trend in the recent past has been toward larger, more economical farming units, I see a number of mid-sized farmers who have operated conservatively and maintained a very low debt/asset ratio buying more of the farmland now coming on the market under distress sales conditions.

Current problems notwithstanding, there are some positive elements affecting Indiana farmers. Although they have just emerged from their fourth consecutive year of a weakened farm economy, farmers, we think, will see the beginning of a more favorable economic climate this year.

On the positive side, prices are rising some for farm commodities and livestock. Land prices seem to be stabilizing with the exception of a few pockets where prices are still somewhat weak. Of course, the key to stabilizing higher land prices is lower interest rates and increased profitability. This is particularly true as long as inflation is kept under control. The prospects for a good crop in Indiana are much better this year than in previous years, and finally, it appears that Government programs have been revamped to assist a broad segment of our farmers.

In the long run, we feel that the American farmer as well as our system of Government are innovative enough to overcome the major economic obstacles facing agriculture. Indiana is in the heartland of the country, an area known as "America's Breadbasket." It is well-positioned to benefit from an economic recovery in the ag industry.

While the progress is painful, the industry will become stronger as marginal, over-leveraged operators move into other ways of life.

We are optimistic about agriculture in the long run. We feel that it is the most important industry in the country. We will find new ways to deal effectively with the major obstacles confronting this vital industry.

Thank you, Congressman.

Representative HAMILTON. Thank you very much.

Gentlemen, since our focus here has been on job creation, I'll just start with the same question I put to the other panels today, and that is, are we going to see additional jobs created in agriculture in the next decade, or are we going to find fewer jobs in agriculture in the next decade in Indiana?

Mr. DOBSON. Congressman Hamilton, I might suggest that there is some reasonable possibility for an increase in the number of jobs in the food processing area. Farming itself will probably not account for much of any increase in jobs. It's a low employer and probably will remain so. Food processing is potentially promising.

Representative HAMILTON. What percentage of the people, the work force in Indiana, is directly employed in agriculture?

Mr. DOBSON. Three to four percent.

Representative HAMILTON. Three to four percent?

Mr. DOBSON. Yes.

Representative HAMILTON. Why do you hit upon food processing? Now, you stress that pretty strongly as an area of growth. Develop that a little bit for me, if you would.

Mr. DOBSON. We have a major hog industry in the State, and we don't process much of that product, and there has been a loss of processing activity in the State, and as I mentioned, Michigan was the big gainer. It seems to me that it's at least a possibility that some of that activity could be regained. The Staley Co. is the leader in the processing of corn products. There may be possibilities for increasing the processing of corn products, particularly the corn gluten products, and it may even be quite necessary if, for example, the Europeans should decide that they would impose tariffs on imports of corn gluten products.

Now, there may be a substantial necessity to find ways of increasing uses for that product domestically, and I think Indiana would be in a position to do that.

Representative HAMILTON. Is food processing much of an employer in our State today?

Mr. DOBSON. It's a major employer. We have major companies such as the Staley Co., and we have some slaughtering activity, but as I suggested, we're declined in that area, and it's clear that we've emphasized the production part of it and not the processing ends of the business. We're more of a cash grain producing State and less of a processed food processing State. The possibility exists for reversal of that trend.

Representative HAMILTON. Now, it's clear, of course, that we get a very large percentage of our agriculture revenue from exports, about 40 percent, and several of you mentioned that about one-third of our acres are planted for export. What are the principal markets for Indiana exports, and are they shifting to the Far East?

Mr. FRENCH. Far East, certainly, is important. Japan is an important market, important customer. Europe has been. Western Europe becomes more and more self-sufficient. Eastern Europe is one of our important customers. We had the problems of the embargo there, and you know, they managed the economies. Spain and Portugal for Indiana grain is an important market and the Mideast.

Representative HAMILTON. Whereabouts in the Middle East?

Mr. FRENCH. Israel is a good customer.

Representative HAMILTON. Any of the other countries?

Mr. FRENCH. No, Israel would probably be the main——

Representative HAMILTON. Egypt's a pretty good——

Mr. FRENCH. Egypt has a good-sized population. It's a very competitive wheat market. We did, with the PIK Program, export last year, took some business from France in that Egyptian flour market.

Representative HAMILTON. How would you assess the export market right at the moment in Indiana? Are we having a great deal of difficulties because of the high value of the dollar, for example?

Mr. FRENCH. Yes.

Representative **Hamilton**. Our exports are down, are they, from preceding years?

Mr. **French**. Tremendously, almost nonexistent right now. The problem is that the high value of the U.S. dollar prices our commodities out of the market, and we have a poor demand out in the world at this time, too. We have a highly valued product coupled with a poor world demand. Other economies lag the U.S. economy and their development, and again, our access to Eastern Europe is poor, and those economies, for the most part, are in very poor shape as far as——

Representative **Hamilton**. Are we fairly aggressive in selling to Eastern Europe?

Mr. **French**. We are aggressive in terms of our efforts simply because it fits into our particular port on the Atlantic, the size ships we can load and the size ships that they use in their ports.

Representative **Hamilton**. Would you see an expansion of Eastern European markets as an important source of new markets for the Midwest farmer?

Mr. **French**. I think it may take what is now called countertrade to help develop this which would be our utilizing some of their raw materials—perhaps potash from East Germany, for example—in exchange for their purchasing corn and soybeans.

Representative **Hamilton**. To what extent do you think we ought to subsidize exports in this country? We now are putting very substantial dollars into export subsidies in agriculture. I think the figure exceeds $3 billion or more, maybe substantially more than that. It is a relatively new development in agriculture for us, and I think we do it in part because we're running into a lot of competition in the export market and those countries——

Mr. **French**. Subsidizing.

Representative **Hamilton**. Subsidizing, so you get yourself in this kind of a box. It's not a very pleasant one to be in, but how do you feel about that?

Mr. **French**. Well, I think it's the kind of ballgame we would not choose to play in, but if it's the only game in town, I guess that's the problem, and what you have is a government, like in France, that's willing to make a guaranteed risk in Eastern Europe or subsidized sale of their surplus product, and what we have, then, in the United States is a farmer competing against the Government of France or the Government in Canada or the Government in Brazil, and I think it is a role, then, where we need the U.S. Government involved, and in a way, I think we won't have to do so much of it, but we need to indicate a willingness to do it when we have to simply keep the other countries from taking advantage of us.

Representative **Hamilton**. We had a heavily subsidized sale of wheat to Egypt.

Mr. **French**. Yes.

Representative **Hamilton**. Do you remember?

Mr. **French**. Yes.

Representative **Hamilton**. It was often described as a shot across the bow—that's the way the ag people described it to us. I think that was broadly supported in the Congress——

Mr. **French**. Yes.

Representative **Hamilton** [continuing]. That kind of a move. In other words, if other countries are going to do that, we're going to do that, and with our productive capacity, of course, we can push them out of the market if we're tough enough, aggressive enough in our export policies.

Mr. **French**. Without starting a trade war, I think that's a concern. Another thing that happens to us is U.S. farmer commodities get all wrapped up in other issues that are unrelated. We had the textile problem with China last year, and we took, you know, a strong stand in this country, raised, at least some tariffs on importing Chinese textiles, and they reciprocated by taking less of our wheat, so, you know, we get——

Representative **Hamilton**. We've already felt the retaliation of that, then, on the textile agreement?

Mr. **French**. Yes.

Representative **Hamilton**. Is that right——

Mr. **French**. Yes.

Representative **Hamilton** [continuing]. In Indiana?

Mr. **French**. Yes.

Representative **Hamilton**. Yes, Mr. Dobson?

Mr. **Dobson**. I didn't know that. That's an interesting observation.

It seems to me that export subsidies deal with symptoms of the problem but not the problem itself. They may be necessary. They may represent some sort of second best solution, but it seems that the real problem is the deficit, and if the deficit could be controlled, the value of the dollar would fall and we would enhance, as Mr. French suggested, the competitiveness of our products in foreign markets and probably would lessen the necessity for export subsidies. I'm very troubled by proposals for increases in export subsidies. The European Community has very deep pockets. The community may be a very formidable competitor to engage in export subsidies with, and the amount that they will have to increase their subsidy to regain markets that we would gain through export subsidies probably would be relatively small. We've an uncertain situation and one where I'm not sure whether we would be a long-term gainer.

Mr. **French**. I think you have to look at——

Representative **Hamilton**. Wait a minute. Wait a minute. So what does that mean for us? Does that mean, in the Congress, we don't subsidize these exports?

Mr. **Dobson**. It seems to me that there is a substantial premium placed on reducing the deficits and making our products competitive by reducing the value of the dollar. I recognize the near impossibility of that, but it seems to me that that's the root cause of the problem, and the export subsidy would deal with the symptom.

Representative **Hamilton**. Several witnesses today have reminded me about that deficit, Mr. Dobson.

Mr. **Dobson**. I assume you get reminded of that every day.

Representative **Hamilton**. I think I've got the point pretty well.

Mr. **French**. I think, as we look at the European approach, the common agricultural policy and that whole approach, we help them out when we create artificially high world prices with our farm programs because they're making up the difference in terms of farm income in terms of where they have pegged it and where the world price is. The best thing we can do to compete, I think, with the Common Market is not to artificially enhance these prices with programs like we did last year but get the farm income maintenance to all farmers anyway unrelated to that price, and then we'd cause a real problem to the Common Market because then their subsidies are almost, you know, manageable.

Representative HAMILTON. What do you mean, "Unrelated"?

Mr. FRENCH. In other words, if we allow our prices to flow out here and clear the market at world prices and keep world prices lower than pushing them up like we did last year. When we took our production out, we raised world prices.

Representative HAMILTON. So you help the farmer how, then? You say you help him in ways that are unrelated to prices. If we have an income maintenance effort for farmers, that we not do it through, say, our target price in local programs. We do it in some other way.

How many farmers are going to go out of business in 1984? Mr. Schlader, can you give me a guess on that?

Mr. SCHLADER. Well, our figures show probably 2 percent or less are in financial trouble, and on a percentage basis, it's a very, very small number. When you talk in terms of numbers, one's too many going out of business, but when you look at it in relation to the total, it's very, very small.

Representative HAMILTON. You know that 2 percent figure I've heard, and it just is a difficult figure to accept given my own experience with farmers everywhere. I go in the southern part of the State. Farmers are impressing on me very, very hard about the difficult circumstances they've had, and I certainly get the impression that an awful lot more than a few percent of them are in deep financial trouble. As a matter of fact, I would guess on the basis of conversations, which I know is not a very scientific poll, the figure would be 25, 30 percent. Now, how come I'm so far off on that? Why is there such a difference between my general sense of it and your statistics? I'm not challenging you; I'm just curious about that.

Mr. SCHLADER. Well, Congressman, it's like anything else. I think we generally hear the negative from a few people who are really in trouble. Historically, farmers, tend to say the weather's never right. I grew up on one myself, and my dad always said—conditions were never ideal. I agree they are having trouble, but a lot of our farmers have been tremendously resourceful. They've cashed in CD's or other reserves and they've controlled their own debt level. Our report reflects only those people that borrow through the system. If we could have a report from all ag lenders, we might see and be able to put our fingers on different and more complete numbers. These are actually figures from probably 20,000 PCA borrowers in the State and about 20,000 land banks, mainly, borrowers in the State. They are actual figures.

Representative HAMILTON. Let me ask you this: One of the things that strikes you about agriculture today, of course, is how few farmers really produce farm output. I mean, you've got about 12 percent or 10 percent that produce 75 percent of the output, so very, very few farmers are the key producers. Now, we're not talking about those people, are we? I mean, they're not threatened at all in going out of business?

Mr. SCHLADER. I would say there's a certain proportion of those big commercial farmers that were caught in a high debt leverage position.

Representative HAMILTON. But not very many?

Mr. SCHLADER. I would say probably not. It's probably the middle group, and it's that group that we see all moving into the larger operations. Some of these farmers are going into part-time farming. They're seeking outside income, outside sources of income to supplement that farm operation.

I would say it's the middle-sized farmer who's not big enough, and he's got the overhead, and he just doesn't have an economically feasible unit to handle that.

Representative HAMILTON. If interest rates jump another point or two in 1984, what will happen, then? What does that do if you compound that with the possibility of drought?

Mr. SCHLADER. We're going to have serious problems this fall.

Representative HAMILTON. And you get more than the 2 percent?

Mr. SCHLADER. We'd get more than 2 percent. Actually, there is some letup as we see it. Our delinquencies a year ago were almost double what they are today in recent reviews of associations, and the credit quality is improving so we see some improvement, and we think that we've identified more of the real highly debt leveraged operators. It's been a process since 1980, but we actually see some——

Representative HAMILTON. Some improvement?

Mr. SCHLADER. Our figures are starting to be reduced considerably.

Representative HAMILTON. Now, a couple of you have talked about moving toward market-oriented farm programs, and you identified, of course, next year as an important year for us because we pick up the farm bill again next year. I'd like you to spell out for me what you think would happen if we do that, if we move toward a more market-oriented economy. What do you really mean by that? Everybody wants to go toward a market-oriented economy. What is it going to mean in terms of prices, crop prices that the farmer is going to get? What's it going to mean in terms of the exports that are so vital to the farmer? What's it going to mean to the farmer's income if we move toward a market-oriented economy? Are you going to force a lot of these farmers off the land, and are they going to be crowded out by the big producer that we know is a major factor in agriculture today? So work on that one awhile here, all of you. I'll ask all of you to comment on it because I think it's a key question.

Mr. FRENCH. I'll start. I hope that our bill will support me here. That's a very good question because, to me at least, a market-orientation foreign program is a long-term program, and when we talk about it, it needs to be a flexible program, but in getting to that long-term position, there will be a price to be paid, and we could see lower farm prices before we see the higher farm prices, and I think that particular gap is one we see. Again, some Government assistance is probably required to get through that transition, but you're right on target that the immediate result probably is not higher prices because you have to pay that price to get to the market.

Representative Hamilton. To get a better program. Do you agree with that, Mr. Dobson? You look like you have some doubts about it.

Mr. Dobson. Well, the idea of a market-oriented farm program is one that I have some difficulty defining. The closest I can come to it is in something like the soybean price support model.

Representative Hamilton. I was going to ask you if that was the idea you had behind the——

Mr. Dobson. Well, that's the idea behind my notion about what it means.

Representative Hamilton. That's a moving average loan rate?

Mr. Dobson. A moving average loan rate with the loan rate based on some percentage of the market price for the last five years, throwing out the high and low prices.

Representative Hamilton. Mr. French, what about you? Do you think of the market-oriented economy in those terms, too?

Mr. French. I think soybeans is a good example of, you know, a commodity that we've allowed to clear out the market price.

Representative Hamilton. Yes. Excuse me, Mr. Dobson. I didn't mean to interrupt you.

Mr. Dobson. And I think there are some elements that fit that description. For example, we moved away from quotas and supply restriction, devices which were very common in the 1950's and 1960's. I think these moves made sense, and they allowed expanded exports in some cases. But these things aren't likely to produce very much more in the way of benefits, as nearly as I can tell. If one is a student of history, when you look at what happened when we tried to move toward a market-oriented farm program under Ezra Taft Benson, the Secretary of Agriculture could barely go out into the country with safety. Movement to a greater market orientation is not an easy thing to do. I guess I find it difficult to get very serious about proposals for a market-oriented program at this time.

Representative Hamilton. But you would see merit in the average loan rate approach?

Mr. Dobson. I would, indeed. It seems to make good sense. That's one aspect.

Representative Hamilton. As a practical matter, that's about as far as we'd be able to move. You're not going to go to a totally market-oriented economy in agriculture in a short-term situation. I think all of us recognize that.

Mr. French. But I think my concern is that we tend to go back to do what we've been doing for a long time, and you can look at some other commodities to kind of get a feel of what's going to happen to us in corn and probably soybeans, eventually, and if you look at cotton or rice, we just simply tend to take ourselves out of the world market. We encourage other people to take over larger shares of the market, and I think we tend to operate in the United States from the mistaken theory that we're the only place in the world that produces food, and that's simply just not right, and more and more nations are able to produce self-sufficiently and become exporters. China and India, this year, have good wheat crops, so, you know, we're not the only place.

Representative **Hamilton**. Who are our major competitors in the export markets? Can you identify——

Mr. **French**. Canada certainly is.

Representative **Hamilton**. On wheat?

Mr. **French**. Brazil and Argentina.

Representative **Hamilton**. On what?

Mr. **French**. Brazil is soybeans, and Argentina, soybeans and corn; Australia, of course, in wheat; and France right within the Common Market.

Representative **Hamilton**. Is the European Community becoming exporters now?

Mr. **French**. They're becoming self-sufficient, closer and closer to self-sufficiency, and that's the reason we're getting—even looking at corn gluten feeds, the French with their surplus wheat want to denature that wheat and move it into the Common Market as a foodstuff replacing corn gluten.

Representative **Hamilton**. I wanted to ask about your views on agricultural research. Are we likely to see the same kinds of increases in productivity continuing in agriculture in the decade ahead, or have we plateaued on productivity increases?

Mr. **Dobson**. The figures that I see suggest that we're probably not going to see the large rates of increase in productivity that we witnessed during the 1950's and the 1960's and perhaps even into part of the 1970's, but the evidence is not necessarily that we've plateaued. We are simply witnessing a slower rate of increase. I think some of the biotechnology work is likely to produce very substantial increases in productivity, but not soon.

Representative **Hamilton**. Are we doing enough of that in Indiana? We have Purdue which is supposed to be one of the great agricultural schools in the world. Are we in the forefront of genetic engineering and biotechnology and all of that as it relates to agriculture?

Mr. **Dobson**. I think we're gearing up, and there's a major, major effort underway in the experiment station at Purdue to do more work in the genetic area, genetic engineering, biotechnology area.

Representative **Hamilton**. There's a lot of Federal support for that; isn't there?

Mr. **Dobson**. There's a lot of Federal support. I'm assuming it will materialize. Certainly, there are proposals that have been submitted for work in this area. One concern that we do have relates to the formula funding for research that is undertaken at the experiment station at Purdue. A curious development is occurring. Federal funding for that research has plateaued and promises to remain flat, I think, given the problems with the deficit which I'll not remind you of but which will be very severe, I think, for the years ahead. We have the necessity to increase faculty salaries. The State of Indiana has been gracious enough to raise our salaries 4 or 5 percent per year, but a third or so, 30 percent or so of our salaries happen to be funded out of formula money which has plateaued. You can imagine that faculty members tend to require that they get the same amount of salary increase that the State provides on their entire salaries. They're not very understanding about the fact that Federal funds don't materialize to cover, say, the one-third of their salary that's covered in the formula funds.

Representative **Hamilton**. I see.

Mr. **Dobson**. And this creates a situation where we're likely to find it necessary to cannibalize positions unless some way can be found to deal with that problem.

Representative **Hamilton**. Do you have any sense of whether we're putting too much money into applied research as opposed to basic research in agriculture?

Mr. **Dobson**. I believe that there's a great need for basic research in the biotechnology and in the genetic engineering area, and also in fields such as mine, ag economics; it's an applied field. All we do is applied work, and I think we do enough that's worthwhile that there's a need to support the sort of work we do; things such as looking at the feasiblity of using more corn gluten products for human food.

We look at the economic feasibility of this sort of thing, and I think it's a little difficult to generalize. There's a strong need for basic research, but some disciplines in agriculture are, by nature, applied and have a good track record and, I think, are worthy of support.

Representative **Hamilton**. Mr. French, you mentioned a moment ago, countertrade. Are you talking about bartering, really, where we barter surplus agriculture?

Mr. **French**. We use the term "countertrade," which is different from barter. Barter is an exchange of one product for another.

Representative **Hamilton**. One product for another.

Mr. **French**. Countertrade is simply selling two products at the market, but buyer and seller dealing with each other and wearing both hats, really, in a sense, our selling grain.

Representative **Hamilton**. We sell and buy.

Mr. **French**. But buying some other product from the people who buy our grain, and it works, probably, the best for us in the commodities area, say in nitrogen or phosphate potash.

Representative **Hamilton**. OK. Gentlemen, do you have any further comments you'd like to make before we conclude? I tell you, we've had an excellent day, and you've topped it off very well for us in this important area of agriculture in Indiana. We thank you for your statements and your participation.

The subcommittee stands adjourned.

[Whereupon, at 3:20 p.m., the subcommittee adjourned, subject to the call of the Chair.]

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